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TYPHUS FEVER ON THE SAN JUAN INDIAN RESERVATION, 1920 AND 1921.

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During the latter months of 1920 and the first half of 1921, 63 cases of typhus fever with 27 deaths occurred on the San Juan Indian Reservation.

The Reservation lies in New Mexico, Arizona, and Utah, and joins Colorado; it comprises 5,884 square miles. The region is for the most part a semidesert, which, however, supports a scanty growth of grass sufficient to maintain sheep. The scarcity of available water is largely accountable for the backward and impoverished condition of the native population, of whom there are estimated to be about 7,000, slightly more than one person per square mile. With the exception of a few Government employees and traders, the inhabitants are Navajo Indians of pure blood.

HABITS OF LIFE.

The Navajo is nomadic in his habits and never lives in villages. These characteristics are imposed upon him by the necessity of supplying his sheep with fresh pasture and water and of keeping them apart from his neighbors' flocks. His abode, or "hogan," is a primitive structure, ranging from a mere sun shelter of cedar boughs in summer to a log building covered with earth for winter use. The hogan is usually crowded, filthy, and unhygienic, since the Indians lack knowledge of even the most primitive rules of sanitation. Owing to the scarcity of water for domestic purposes, bathing is uncommon and quite unknown to many. Left to themselves, the Indians of the San Juan Reservation are 90 to 100 per cent infested with vermin, usually both head and body lice being found.

THE EPIDEMIC.

Origin of epidemic.—The origin and manner of introduction of typhus fever upon the reservation in 1920 will probably never be definitely known. The region, however, situated as it is between Mexico and the mining regions of Utah and Colorado, serves as a pathway for itinerant laborers, and it may be that some of these travelers carried the infection from across the international border,

where typhus is endemic. Or some Indian, as occasionally happens, may have traveled beyond the reservation boundary, where the Indians are known to mingle with the lower elements of society, and carried the infection with him upon his return.

Early cases not recognized.—Cases occurring prior to the middle of May, 1921, were variously diagnosed by Indian and missionary physicians as malignant influenza, black measles, typhoid fever.

Diagnosis.—The epidemic was identified as typhus fever in May by Dr. Waller and Dr. Tappan, of the United States Public Health Service. The sudden onset, the characteristic fever, the mottled and petechial eruption appearing on the fifth to seventh day of the disease, the profound stupor, the foul condition of the mouth, the recovery by crisis in many cases, the age distribution of the fatal cases, and the fact that louse destruction controlled the disease, mark the epidemic definitely as one of typhus fever.

Dr. John G. Graffin, the agency physician at Shiprock, N. Mex., and Dr. George H. Davis, the medical missionary at Red Rock, probably died of the disease, each believing, however, that he had influenza.

Chronology and distribution of cases.—The Navajo has no method of recording time which is capable of ready translation into terms of the Gregorian calendar; hence it is difficult to locate the early cases accurately in point of time. Cases which from all information securable seem to have been typhus fever probably occurred as early as the first part of November, 1920. Cases followed at intervals throughout December, 1920, January, February, March, April, May, and June, 1921.

Infection occurred in three main foci, namely, River Agency, Red Rock, and Tosito, situated with reference to each other about as the apices of an equilateral triangle, the distance between the foci being approximately 30–35 miles. (There are no accurate maps of the region.)

Early cases.—The first known case of typhus occurred in the Red Rock district. The patient was a "medicine man," probably 55 years of age. Early in November this man went to Farmington, where he "sang" over a patient, and was absent about one week. Three or four days following his return he was taken ill, and died on December 10, 1920. Before his death his youngest daughter, aged 16, became ill of the disease, and a week or two later his oldest daughter, aged 20, and his oldest son, aged 23, were stricken; later, the second son, aged 21, and the widow were also stricken. A 4-year-old son escaped. The onset in these various cases probably occurred in November, December, and January.

During the illness of the first case above mentioned, the customary "sing" was held. A brother-in-law of the first case and his wife

attended and remained throughout the ceremony, probably 15 days. The husband was stricken three days after their return to Shiprock, N. Mex. This was in December. He died January 10, 1921, making two deaths in this month. From this beginning the disease spread to a total of 63 known cases with 27 deaths. Spread from these earlier cases was usually traceable to the agency of the "sings." The last case developed June 13, 1921, and the last death occurred on June 27.

STATISTICAL SUMMARY.

Chronology of cases.—The onsets of the various cases are estimated to have occurred as follows: November, 1; December, 6; January, 8; February, 2; March, 3; April, 21; May, 10; June, 12; total, 63.

Chronology of deaths.—From agency records the deaths occurred as follows: December, 2; January, 4; February, 2; March, 2; April, 2; May, 11; June, 4; total, 27.

Distribution of cases and deaths by ages.

Age period (years).	Cases.	Deaths.	Remarks.
0-4.....	1	1	This death was of a child 21 days of age. The mother had typhus but recovered. The child probably died as a consequence of typhus rather than of the disease.
5-9.....	3		
10-14.....	6		
15-19.....	7		
20-24.....	4		
25-29.....	2		
30-34.....	4	1	
35-39.....	4	2	
40-44.....	8	4	
45-49.....	6	5	
50-54.....	11	7	
55-59.....	3	3	
60-64.....	3	3	
65-69.....	1	1	
Total.....	63	27	

Sex distribution and case fatality.

	Cases.	Deaths.	Per cent of cases dying.
Males.....	37	19	51.4
Females.....	26	8	30.8
Total.....	63	27	42.8

¹ Includes 2 white cases.

Distribution by foci of infection.

Locality.	Cases.	Deaths.
Bed Rock.....	32	10
River Agency.....	9	5
Tosito.....	22	12
Total.....	63	27

THE CAMPAIGN.

Special conditions.—That the disease did not assume greater proportions prior to its recognition is probably due to the fact that the Indian families were well isolated from one another, one to three hogans usually being situated in one locality, often miles to the nearest neighbor, and to the fact that the Navajo, although he does a certain amount of visiting, confines his visits largely to his own clan. Moreover, by the time the epidemic had reached a stage where the disease might be expected to spread rapidly, spring had brought warm weather with its well-known limiting effect upon typhus.

In spite of these favoring circumstances, however, there were many difficulties to be overcome in eradicating the disease. Among these difficulties may be mentioned the following: The almost complete absence upon the reservation of equipment with which to combat vermin; the distance from markets; the scattered and constantly changing location of the Indians' abode, with the attending difficulties of locating cases; the absence of roads; the high percentage of louse infestation among the natives; the scarcity of available water and fuel; the complete ignorance of the natives with reference to the spread of disease; and the natural fear and superstition which they hold toward any new procedure, such as bathing, together with the tendency to conceal cases because of these fears.

On June 24, 1921, owing to problems of interstate quarantine involved, the Office of Indian Affairs, upon recommendation of Dr. R. E. L. Newberne, Chief Medical Supervisor for that office, requested the United States Public Health Service to assume full control of the situation. The close and efficient cooperation of the Office of Indian Affairs and the Chief Medical Supervisor was, however, continued under the new arrangement.

DETAILS OF THE CAMPAIGN.

The writer arrived at the scene of the outbreak on May 31, 1921. He found there Dr. R. E. L. Newberne; Dr. J. S. Perkins, special physician of the Indian Service; and Dr. J. K. Kennedy, agency physician, who had temporarily taken the place made vacant by the death of Dr. Graffin. Dr. Waller and Dr. Tappan had previously established the diagnosis, following which they acted in an advisory capacity.

Prior to my arrival, Dr. Newberne, with the equipment that he could muster, had begun delousing operations at Tosito. The equipment consisted of a few tubs, 300 gallons of distillate (50 per cent coal oil and 50 per cent gasoline), a barrel of vinegar, and one tent. The delousing process consisted of stripping and painting the individuals with distillate, and either dipping the clothing in the

same material or boiling it. The vinegar mixed with distillate was used on the heads to assist in loosening nits.

This process was displeasing to many of the Indians, since mild symptoms, such as headaches and dizziness, were not uncommon following the distillate baths. Superficial blisters were also quite common, the result of dressing before the distillate had completely evaporated from the skin or clothing. It is estimated that from 700 to 1,000 Indians were deloused by this process; but the process was superseded by more humane methods just as soon as necessary equipment had been secured.

The possibility of securing portable delousing outfits from the Army was considered; but it was found that the bridges of the region were not heavy enough to support the weight of this equipment. General delousing operations therefore awaited the construction of light equipment. Our attention in the meantime was directed toward educating the natives, and to the delousing, isolation, and treatment of cases.

Education of natives.—Natives invested with police power were employed, whose duty it was to go periodically from hogan to hogan in the district assigned to them, and to report to the medical officers every case of illness, regardless of its nature. All reported cases were then visited by Dr. Newberne or myself with a view of diagnosis.

By means of these native police and through the trading posts, the Indians of the infected areas were summoned to collect at stated times for the purpose of instruction regarding the "New sickness." These meetings were well attended.

Since the natives were incapable of grasping the scientific facts regarding the spread of typhus, they were told that some one had brought in some Mexican lice and that it was these which were making them ill. (This made a proper impression as the Navajo has an ancient hatred for anything Mexican.) Instructions were given in regard to bathing, the frequent use of boiling water for killing lice on clothing, and regarding the use of coal oil. They were instructed to place in the sun each day from sun up to sun set, pelts and the like, which it was felt they could scarcely handle without aid. While we had no opportunity to test the efficacy of this procedure, it was felt that it might have a discouraging effect on vermin and at any rate exercise a wholesome influence on the dirty pelts and blankets used for bedding, especially since at this altitude (6,000 feet), in the clear dry atmosphere of the desert, the sun shines with great intensity at that time of year—June and July. The danger of spreading the disease through the agency of "sings" was explained; but such apparent dread of being deprived of the services of their native healers was expressed that it was decided that medicine men might hold their "sings" over typhus cases provided they go singly and not

permit the friends and neighbors to collect. This was upon condition, however, that the singer be free of vermin and go only after the patient, clothing, and bedding had been deloused; and that he be also deloused before leaving the premises or mingling with other households. The medicine men adhered to this plan admirably and none of them developed typhus following its institution; neither did any typhus develop under this plan which could be traced to the "sings".

Delousing of cases.—As soon as a case was found it was deloused at once by bathing in nicotine sulphate 1:1,000 solution. Clothing and bedding were either boiled or treated with nicotine sulphate or distillate. Other members of the family were also deloused, as were the members of any near neighboring hogans. Delousing was repeated at intervals of not more than six days. For lack of time and personnel, delousings following the first were at times intrusted to native attendants.

We were without means of delousing the hogan, and an effort was made to secure Army tents in order that cases and exposures might be removed from the probably vermin-infested hogan into clean tents; but the tents were not available until after the emergency had passed.

Isolation of cases.—Prior to June 1 an emergency isolation hospital was opened at Shiprock, N. Mex., where three Indians suffering from typhus were confined under the immediate care of Dr. J. S. Perkins. The hospitalization of cases was, however, abandoned, owing to the difficulty of transporting the cases and to the fact that the Indians themselves objected to the procedure. Subsequent cases were isolated in their own hogans with a single attendant assigned to look after them, other members of the family finding other quarters.

General delousing.—It was found impossible to purchase suitable equipment in the available markets. Specifications were therefore decided upon, and Dr. Newberne, at Albuquerque, had equipment built and mounted upon a small truck. The outfit consisted essentially of the truck, a 3-horsepower boiler, a 400-gallon tank for bathing water, two steam tanks for sterilizing the clothes, pumps, spray baths, and three tents. General delousing operations were begun July 9.

Delousing procedure.—Prior to going into a district for the purpose of delousing, mounted guards were sent to notify the people that delousing would begin on a certain day, and that they should come and bring their bedding, pelts, quilts, blankets, clothing, etc. One notice usually sufficed; but if any failed to appear, the guards paid a second visit with instructions to bring them in. When the Indians arrived they were instructed by an attendant to deliver their blankets and other articles which would not be injured by steaming, to the steam sterilizers, where they were subjected to live steam for from 25 to 30 minutes. While this steaming was going on, the women

took their pelts to the tubs, where they washed them in a solution of nicotine sulphate (40 per cent black leaf, used in dipping sheep) 1:1,000 dilution in alkaline water kept at a temperature of 100° F. or above, following which the articles were allowed to dry. The applicants' heads were next thoroughly washed with a mixture of equal parts of kerosene and dilute acetic acid. The males who would submit had their hair cut. About 15 per cent permitted it. There were two bathing tents—one for men and one for women and small children—and a dressing tent for women. These tents were in charge of male and female attendants, respectively, the attendants being individuals immune to typhus. In the tents the clothes were completely removed, and each individual's clothing was placed in a separate sack. The sacks were then thrown out and taken by an attendant to the steam sterilizers. Shoes, belts, hats, and other articles damageable by heat were sprayed with a 1:500 nicotine sulphate solution.

The applicants next proceeded to the shower bath, where, under the supervision of the attendant, their heads and bodies were thoroughly washed in soap and water, the soap being prepared by boiling 1 part of soap chips in 4 parts of water and adding 2 parts of kerosene. The solution used in the bath consisted of 1 part of this mixture in 4 parts of warm water. Following this preliminary bath, the applicants were given an ordinary bath of soap and water. Rough towels were furnished. After completion of the bathing process, the bather was given a sheet in which to wrap himself until such time as his sterilized clothing was available.

Delousing stands were made at five places, accessible to the entire district except to the Indians of the Aneth district, which is in Utah and which is separated from the infected areas by the swift San Juan River, which prohibits free communication. This district was never infected. The infected areas were each deloused two or three times at intervals of approximately 20 days. The campaign was terminated on September 3, 1921, and no cases have been reported from these areas to date (January, 1922). The last case occurred on June 13, 1921.

There were 6,205 men, women, and children deloused during the campaign, exclusive of about 1,000 deloused by the provisional plan above mentioned. These figures do not take into consideration the considerable number of "repeaters" who voluntarily underwent repeated delousings, some even following from one station to another.

Protection of employees.—Three of the delousing attendants were immune. One-piece uniforms of louse-tight material were provided for employees, and instructions issued relative to bathing, the steaming of uniforms, clothing, etc. No cases developed among any of the employees.

EFFECTS OF THE CAMPAIGN.

Of scarcely less importance than the eradication of the disease among the Indians was the educational value of the campaign among the natives. At first they viewed bathing with suspicion and fear, but later they came to enjoy it and willingly brought their families and household belongings from 10 to 50 miles in order that they might be cleaned. Traders were selling large quantities of soap to the natives at the close of the campaign, whereas previously its use among the Indians was extremely limited.

The natives who had always passively accepted their body vermin as a natural and necessary evil—since they believed that lice come from inside the body by passing through the skin—learned methods by which they could at least get temporary relief from these pests, and many of them were voluntarily applying the lessons when the campaign was terminated. The effect of the general delousing of the districts upon vermin was most marked in the case of body lice, which were seldom found; whereas head lice were still quite widely prevalent in the deloused areas at the close of the campaign, owing to the hatching of new crops, the nits not having been killed.

EARLIER EPIDEMIC.

A small epidemic of typhus occurred among the Navajos in 1914 at Cononcito, with 27 cases and 4 deaths. Prompt and vigorous measures checked the disease.

KNOWLEDGE GAINED FROM THE EPIDEMIC.

1. The Navajo Indian Reservation must be considered a potential focus of typhus fever and will remain such as long as the native inhabitants are permitted to live in their present vermin-infested condition.

2. Indians enjoy being clean and free of vermin, and if bathing and laundry facilities should be instituted at a few points where water is available, it is believed the Indians would avail themselves of the advantages. They repeatedly requested that this arrangement be made. Recommendations covering this point were made to the Department of the Interior by Dr. Newberne.

3. Medical men and Government employees upon the reservations should keep typhus fever constantly in mind as a possibility in every case of illness.

4. Although it was found necessary to make a number of concessions regarding isolation and quarantine of cases and exposures in order to gain the cooperation of the natives, vigorous delousing measures brought the epidemic quickly under control.

Acknowledgments.—Personally and in behalf of the United States Public Health Service, the writer wishes to express his appreciation of the hearty and continued cooperation rendered by the Office of Indian Affairs and its chief medical supervisor, Dr. R. E. L. Newberne, in suppressing the outbreak; also to Dr. N. D. Frazin, of Tyrone, N. Mex., who assisted in the work during the month of July, for his faithful and efficient aid.

LIMITATIONS TO THE USE OF QUININE INTRAVENOUSLY IN THE TREATMENT OF MALARIA.¹

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Recently, along with the growing popularity of intravenous medication of various sorts, the intravenous injection of quinine has become a more common and widely used procedure in the treatment of malaria than formerly. *A priori*, the method appeals to one as being rational. It affords the opportunity of introducing the drug in known concentration directly into the blood stream in which the parasites are living. Theoretically it is the most exact and most effective mode of approach in the chemotherapy of malaria.

From the practical point of view, on the other hand, ever since the method was first advocated by Bacelli² it has been apparent to those who had large experience with the method that there were certain limitations to its field of usefulness. Without attempting a chronological review of the literature on the subject, it is the purpose of this paper to call attention again to certain dangers in the procedure and the precautions necessary in its use, with a view toward defining anew its proper field.

In judging the value of a method of treatment of malaria it is important to bear in mind that two objects are to be accomplished: First, the patient must be relieved of his acute attack; second, the parasites in his body must be damaged or destroyed to a degree that renders a relapse unlikely. While it is relatively easy to obtain data regarding the first requirement, it is rarely possible to follow up a sufficiently large series of treated cases over a sufficiently long period (at least six months and preferably a year or more) to establish the second point.

In this report attention is confined to the use of intravenous injection of quinine in the cure of the acute attack. The second point, i. e., the prevention of relapse, has been covered quite satisfactorily in recent war literature dealing with the treatment of thousands of cases

¹ From Field Investigations of Malaria, United States Public Health Service.

The author desires to acknowledge with thanks many courtesies extended by Surg. James K. Brew and the valuable laboratory assistance of Miss Cecelia Roberts.

² Bacelli: *Gaz. degli. Osped.*, Feb. 1890. *Riforma med.* 1890, 6.

of malaria among the soldiers returning from the Mediterranean war area. In these studies^{3, 4, 5, 6} no evidence was obtained to indicate that the intravenous route of administration was more effective than ordinary mouth administration in the prevention of relapses. The questions formulated, then, are: What are the dangers in giving quinine intravenously? How can they be avoided? What are the clinical indications for the method?

The dangers in giving quinine intravenously can best be illustrated by some observations made in a small series of cases in which this method was used without the safeguards that have been recommended, but with a technique that is not unusual in hospital and private practice. The plan of treatment was as follows: As soon as the diagnosis of malaria had been established, the patient was started upon a course of intravenous treatments *by routine*. The drug used was the double salt of quinine and urea hydrochloride. The preparation is marketed in solution in sterile ampules, $7\frac{1}{2}$ grains each in 1 c.c. solution. The contents of two ampules (15 grains) was taken up in a 2 c.c. Luer syringe and injected into a vein at the bend of the elbow. This dose was repeated daily until from five to eight treatments had been given. The oral administration of the drug was then begun. The amount of this after-treatment varied within wide limits and was not looked upon as essential.

The results of this plan of treatment must be judged not only from the point of view of its effect upon the parasite in the blood stream, but also upon the patient himself. The ideal of chemotherapy is that the drug should be so administered as to "select and destroy the parasitic substance, *leaving unscathed the protoplasm of the host*".⁷ The latter requirement is more important than the former in a simple uncomplicated case of malaria, in which the natural tendency is ordinarily toward spontaneous cure. Quinine injected intravenously into man may manifest quite definite effects upon the circulatory system, the nervous system, and upon the skin and subcutaneous tissues when these are involved at the site of injection.

A. EFFECT UPON PATIENT.

1. *Circulatory system*.—It has long been known that quinine is a circulatory depressant. In this connection it is interesting to note that the closely related alkaloid, quinidine (the dextro-rotatory, stereoisomer of quinine) has recently received considerable attention in

³ Mayne, Bruce, and Moss, M. M.: Abstracts of the studies which were made at the request of the British War Office. Reprint No. 629 from Pub. Health Rpts., Dec. 24, 1920, pp. 3082-3091.

⁴ Zweig and Matko: Wien. klin. Wchnschr., 29, 1916, pp. 1516-1522.

⁵ Hefir, P.: Ind. Jour. Med. Res. (Sp. Ind. Sci. Number) 1919, pp. 89-100.

⁶ Acton, Hugh W. et al.: Ind. Jour. Med. Res., 8 (Apr.) 1921, pp. 750-871.

⁷ Editorial, "Recent Tendencies in Chemotherapy," Jour. Am. Med. Assn., 77, Nov. 19, 1921, p. 1658.

the treatment of auricular fibrillation^{9,9,10} and hypertonia. Quinidine has been shown to cause a fall in blood pressure when injected intravenously into dogs.¹¹ McCarrison and Cornwall¹² have shown that all salts of quinine produce a profound fall in blood pressure after intravenous injection in sheep. Finally, Brahmachari¹³ has observed a fall in blood pressure following rapid intravenous injection of concentrated solutions of quinine in man in the treatment of malaria.

Our own observations confirm those of Brahmachari. Blood pressure and pulse rate were determined before and at frequent intervals following the intravenous injection of quinine and urea hydrochloride (15 grains in 2 c. c. suspension) in a series of cases under treatment for malaria. It was found that when the time taken for the injection was short, a marked effect upon pulse rate and blood pressure was almost sure to result. Before the syringe was completely emptied, the pulse rate began to pick up. It became rapid and weak and sometimes slightly irregular. The disturbance in heart action seemed to reach its maximum in something less than two minutes. The number of beats per minute sometimes increases to 125 or more. Recovery was usually rapid, the rate coming back to normal in 5 to 15 minutes.

Along with this disturbance in heart action there was a decided drop in blood pressure which was apt to be maintained for some time after the pulse rate had come back to normal. The systolic pressure often dropped 10 to 20 mm. Hg., and the diastolic from 5 to 10 mm. Hg. Maximum effect was usually noted in two to three minutes. It was often an hour or more before the former level was reached.

The following observations are given as illustrative examples:

CASE J. D.

Diagnosis: Malaria, tertian, chronic, and acute. Enlarged spleen.

Sept. 22.—Second injection; given in 15 seconds. Pulse rose from 72 to 92; back to normal in 5 minutes. Blood pressure fell from 100/70 to 92/70; normal reading obtained after 1½ hours.

Sept. 23.—Third injection; given in 15 seconds. Pulse rose from 68 to 92; normal in 5 minutes. Blood pressure fell from 95/65 to 90/60; rose to previous level in 15 minutes.

Sept. 24.—Fourth injection; given in 25 seconds. Pulse rose from 68 to 92; normal in 5 minutes. Blood pressure dropped from 100/65 to 95/65; reached former level in 30 minutes.

⁹ Frey, W.: *Berl. klin. Wehnschr.*, 55, 1918, pp. 417-451.

¹⁰ Levy, Robert L.: *Jour. Am. Med. Assn.*, 76, 1921, pp. 1280-1293. (See also Editorial, *Jour. Am. Med. Assn.* 77, 1921, p. 1822.)

¹¹ Chénisse, L.: *Presse med.*, Paris, 29, 1921, p. 748.

¹² Cohn and Levy: *Proc. Soc. Exp. Biol. and Med.*, 18, 1921, p. 233.

¹³ McCarrison, R. and Cornwall, J. W.: *Ind. Jour. Med. Res.*, (Jan.) 1919, pp. 248-261.

¹⁴ Brahmachari, U. N.: *Lancet*, II, 1920, pp. 1301-1302.

Sept. 25.—Fifth injection; given in 10 seconds. Pulse rose from 70 to 100; normal in 5 minutes. Blood pressure fell from 100/70 to 85/65; reached former level in 15 minutes.

CASE B. M'C.

Diagnosis: Malaria, tertian, chronic, and acute. Enlarged spleen.

Sept. 22.—First injection; given in 25 seconds. Pulse rose from 68 to 80. Blood pressure fell from 120/75 to 110/70; back to normal in 1 hour.

Sept. 23.—Second injection; given in 30 seconds. Pulse 88; no acceleration. Blood pressure fell from 120/80 to 110/65; back to normal in 30 minutes.

Sept. 24.—Third injection; given in 15 seconds. Pulse rose from 68 to 92. Blood pressure fell from 110/70 to 100/65; back to normal in 1 hour.

CASE A. B.

Diagnosis: Malaria, tertian, acute. Enlarged spleen.

Sept. 28.—First injection; given in 30 seconds. Pulse rose from 90 to 112. Blood pressure fell from 115/65 to 110/70; back to normal in 5 minutes.

Sept. 29.—Second injection; given in 15 seconds. Pulse rose from 100 to 120. Blood pressure fell from 110/75 to 100/65; back to normal in 5 minutes.

Sept. 30.—Third injection; given in 60 seconds. Pulse rose from 72 to 100. Blood pressure fell from 110/75 to 108/65; back to normal in 5 minutes.

CASE A. R.

Diagnosis: Malaria, aestivo-autumnal, acute. Enlarged spleen.

Sept. 30.—Second injection; given in 60 seconds. Pulse rose from 100 to 140; was recorded at 80 from 5 to 15 minutes after, and rose to 100 again in 30 minutes. Blood pressure fell from 125/75 to 105/75; reached former level in 1 hour.

Experimental and clinical observations thus agree that the rapid intravenous injection of a concentrated solution of quinine may have a pronounced depressing effect upon the circulation. The possibility of producing this effect upon the patient who is being treated for malaria must be considered carefully. If the patient is already suffering from circulatory embarrassment or the severe hypotonia sometimes associated with chronic aestivo-autumnal infections, the added burden produced by the well-intended therapeutic effort may result in a fatal outcome instead of improvement.

2. *Central nervous system.*—Whether the subjective symptoms of acute cinchonism are to be attributed to a direct action on nervous tissue or are more or less dependent upon circulatory changes is not altogether clear. However, that the drug has an affinity for nervous tissue is demonstrated in its action on the retina (toxic amblyopia), on the auditory ganglia (toxic deafness), and on peripheral nerves (paralysis following intramuscular injections).

Subjective symptoms of acute cinchonism of a more or less severe degree invariably follow intravenous injections of the type described above. The severity of the reaction is in a general way proportional to the speed with which the injection is made, but the well-known factor of individual idiosyncrasy comes into play. In the usual run

of cases, the reaction is disagreeable to the patient, but not alarming. Following the emptying of the syringe, he complains of a bitter taste, ringing in his ears, blurring of vision, and a queer, confused, dizzy feeling. In a few cases in which the injection was very rapid, an alarming reaction was observed. Besides the symptoms noted above, the patient broke into a profuse sweat, his pupils became dilated, his expression became fixed and staring, the facial muscles twitched, and a convulsion seemed imminent. The condition, however, usually reached its worst in 3 to 10 minutes and then gradually subsided. It was not unusual, however, for an hour or two to elapse before the patient really "felt himself" again.

Of 11 instances on which notes were made the reaction was practically negligible in 3, moderate in 6, and very severe in 2.

Along with these nervous manifestations attending the rapid injection of concentrated solutions of quinine, which may be extremely disagreeable to the patient, the possibility and danger of encountering a patient with a violent individual idiosyncrasy to the drug must be constantly borne in mind.

3. *The skin and subcutaneous tissues.*—Attention to the destruction wrought upon the tissues by concentrated solutions of quinine has been brought by a number of observers in discussing the relative advantages and disadvantages of intramuscular and subcutaneous injections. The subject has been treated experimentally in a very complete way by Dudgeon.¹⁴ It suffices to say that the necrotizing action of concentrated solutions of quinine upon tissues is comparable to that of salvarsan and all of the precautions guarding against extravasation around the point of injection of the latter drug should be observed in injecting quinine. An accident of this nature is almost sure to be followed by swelling, pain, loss of motion, and, finally, necrosis with sloughing and a resultant wound which is extremely slow to heal. Occasionally thrombosis of a vein and paralysis of a peripheral nerve by direct involvement has been known to occur.

In the series of cases reported by the British War Office (see ref. footnote 3) of 127 injections of quinine bihydrochloride (15 grains) in 8 patients, thrombosis occurred in 4 patients, 2 in both arms and 2 in one arm only. In the small series of cases upon which this report is based, the following four accidents of a similar nature came under observation.

Case No. 9.—Diagnosis: Malaria, simple tertian. Admitted to the hospital in July. Given a series of five intravenous injections. Readmitted to the hospital two months later with a relapse. The patient was found to have an area about 3 inches long and 2 inches wide on the external aspect of his left lower fore arm, which was anesthetic

¹⁴ Dudgeon, Leonard S.: Jour. of Hyg., 18, 1919, p. 317.

to epicritic sensation. He stated that this had resulted from the intravenous treatments previously given.

Case No. 2.—Diagnosis: Malaria, simple tertian. Admitted to the hospital in September. A small amount of solution extravasated during the fourth injection. The arm became swollen and painful at the bend of the elbow. Skin did not break down, but normal contour and motion were not restored until several days later.

Case No. 3 (A. R.).—Diagnosis: Malaria, aestivo-autumnal. Admitted to hospital September 22. On October 17 small amount of quinine solution extravasated during injection. Skin and subcutaneous tissues subsequently broke down and sloughed, leaving a punched-out area the size of a hickory nut, which healed very slowly.

Case No. 13.—Diagnosis: Malaria, simple tertian. Admitted to hospital September 9. Given four intravenous injections and discharged on September 17. Readmitted September 22 with suppurating wounds at the bends of both elbows. These healed very slowly and were not completely closed over when he was discharged on October 15.

Experiences of this sort, which may happen to anyone with ordinary skill in giving intravenous injections, counsel conservatism in using the method in the usual run of malarial infections.

From the above considerations, it is evident that the method does not always achieve the ideal laid down for chemotherapy of "leaving unscathed the protoplasm of the host."

B. ACTION ON PARASITES.

1. *Asexual forms (ring forms) in the peripheral blood.*—The specific action of quinine upon the asexual (ring) forms in the peripheral blood is effected quickly and surley by intravenous administration. Its action in this regard is probably more rapid ¹⁵ than when given by either of the other routes—oral or intramuscular.

In the series of cases observed in this study, ring forms were seldom found after the first injection. In only two instances did they persist until after the second had been given. It must be admitted, however, that in an equal number of cases treated by oral administration of 30 grains daily, practically the same result was obtained. The superiority of one method over the other in this regard is therefore not especially notable; but where time is an important factor in instituting the treatment of a given case, the intravenous mode of administration has an obvious advantage. Its efficacy in curing the average acute attack is undoubted.^{16 17 18}

2. *Sexual forms (crescents) in the peripheral blood.*—There still seems to be a reasonable doubt in the mind of most observers whether quinine has a direct action on crescents. It was not surprising then to find in at least two cases which came under our observation that

¹⁵ James, S. P.: Trop. Dis. Bull., 13, 1919, p. 92.

¹⁶ Patrick, Adam: Jour. R. A. M. C., 32, 1919, pp. 295-301.

¹⁷ Pitt, G. Newton: Guys Hosp. Reports, 71, 1921, pp. 21-25.

¹⁸ Woodcock, H. M.: Jour. R. A. M. C., 54, 1920, pp. 385-396.

the intravenous injection of the drug apparently had no more effect upon crescents than did the oral administration.

Case No. 3 (A. R.)—Admitted September 22. Diagnosis: Malaria, aestivo-autumnal. Blood smears showed large numbers of rings and crescents. Given quinine sulphate gr. 30 daily by mouth for one week. Ring forms disappeared on the second day, but the crescents were undiminished in numbers. He was then given a series of seven intravenous injections of quinine and urea hydrochloride, 15 gr. each. Smears still showed large numbers of crescents. Treatment was continued by mouth, 30 grains of the sulphate daily until November 4 (sixth week of treatment), when the first negative smear was obtained. He was discharged on 10 grains daily.

Case No. 12 (J. L.)—Admitted September 13. Diagnosis: Malaria, aestivo-autumnal. Blood smears showed large numbers of rings and crescents. He was given a series of six intravenous injections and was discharged. Took no after treatment. Readmitted to the hospital on October 14 (same year) with a severe relapse, presenting marked gastro-intestinal symptoms. Given four intravenous injections and then the treatment was continued by mouth, 40 grains daily. Crescents were still present on November 1, but a negative smear was reported on November 5 (end of third week).

From these instances and the literature at present available, it seems reasonable to conclude that the intravenous route of administration possesses no advantages *per se* over ordinary mouth administration in ridding the peripheral blood of crescents.

DISCUSSION.

When quinine is given intravenously by routine in the treatment of malaria, as outlined above, it can hardly be claimed that the procedure is without danger of untoward result. The sudden introduction of a concentrated solution into the blood stream tends to cause circulatory depression and distressing nervous phenomena. Whenever accidental extravasation into the tissues at the point of injection occurs, local necrosis and sloughing is apt to result.

To be weighed against these dangers to the patient, is the unquestionable rapidity with which the drug is brought into contact with the parasites in the blood stream. Except with regard to this advantage, viz, the rapidity with which therapeutic control may be initiated by this route, there is no clear evidence at present that it is more effective in the ordinary run of malarial infections than is mouth administration of the drug in curing the acute attack, in ridding the blood of sexual forms, or in preventing relapse.

Its proper field of usefulness would seem to be upon urgent clinical indications of two sorts. First, it is the method to be used in those cases of malaria in which prompt absorption by the gastro-intestinal tract, following mouth administration, is not to be expected, on account of violent gastro-intestinal disturbance or other cause, or in which it is impossible to give the drug by mouth on account of the mental condition of the patient, i. e., delirium, coma, etc. Secondly, it is the method to be used in those cases of malaria which are gravely

ill when first seen by the physician and in whom it is deemed imperative to secure immediate cinchonization. It does not seem necessary nor desirable to use the intravenous route of administration in the simple acute or chronic infections ordinarily encountered, whether tertian or aestivo-autumnal, on account of the added risk and discomfort to the patient.

In those cases in which the clinician decides that the use of the method is warranted, the effect of the drug upon the patient must be borne in mind. Particularly is it necessary to be sure that the patient is not suffering from circulatory embarrassment before the injection is undertaken. The technique of the injection must be such as to minimize the danger of untoward effects. This may best be secured by observing three cardinal principles:

A. Careful *aseptic technique*.

B. Giving the drug in moderate doses and *in dilution*.

C. Introducing the solution into the blood stream *slowly*.

It has been demonstrated to our own satisfaction now in a considerable series of cases that when these precautions are observed, the average patient experiences little or no discomfort and there is little, if any, noticeable effect upon the circulation.

All the precautions which are observed in giving a dose of salvarsan should be observed in giving quinine. A sterile filtered solution of the quinine salt (di-hydrochloride is generally recommended) should be prepared and diluted so that 1 c. c. contains not more than $\frac{1}{2}$ grain of the drug. The size of the dose should not exceed 15 grains for a normal adult (see ref. footnote 3). It is advisable to start with a dose of 5 grains and increase to 10 or 12 grains in the subsequent injections. The solution containing the proper amount of the drug may be taken up in a 25 c. c. syringe and injected very slowly at the rate of about 1 c. c. per minute. The injection should be discontinued immediately if there is any suspicion that the solution is not going into the vein properly. Extra care should of course be given in the case of individuals who claim an idiosyncrasy for the drug.

Where there is thought to be danger of circulatory collapse, it is advisable to make frequent readings with the blood pressure apparatus during and for several hours after the injection. The therapeutic action of adrenalin is antagonistic to that of quinine and should be used to combat the depressing effect which the quinine salt may have upon the circulation.

The intravenous administration of quinine should be discontinued as soon as the clinical indications which rendered its use advisable have subsided and cinchonization continued by mouth administration until the acute attack is relieved. The eight weeks or more of after treatment necessary for sterilization of the patient's blood should always follow.

CONCLUSIONS.

1. The dangers in the intravenous injection of quinine in the treatment of malaria are: Depression of the circulation; disagreeable and alarming nervous phenomena; and local necrosis and sloughing at the point of injection.

2. No evidence is found to indicate that this route possesses special advantages over ordinary mouth administration of the drug in curing the acute attack or in ridding the blood stream of sexual forms (crescents), except with regard to the speed with which therapeutic control may be initiated.

3. The method should be reserved for those cases with urgent clinical indications or in which mouth administration of the drug is impracticable for any reason.

4. The untoward effects which may result from intravenous administration of quinine may be largely avoided by rigorously observing certain precautions similar to those found necessary in the injection of such drugs as salvarsan.

CASES OF INFLUENZA REPORTED BY STATES, 1922.

The accompanying table shows, by weeks, the number of cases of influenza reported by State health officers from January 22 to March 18, 1922.

On pages 640-641 of the Public Health Reports for March 17, 1922, appears a table giving the number of cases of influenza reported by State health officers during the first 10 weeks of the years 1920, 1921, and 1922.

The aggregate estimated population of the 28 States and the District of Columbia is approximately 67,200,000.

Number of cases of influenza reported by States from Jan. 22 to Mar. 18, 1922, inclusive, by weeks.

State.	Number of cases reported during week ended—							
	Janu- ary.	February—				March—		
	28	4	11	18	25	4	11	18
Alabama.....	3	26	95	29	20	31	185	340
Arkansas.....	88	192	232	158	202	371	409	529
California.....	48	92	845	4,315	10,033	9,917	4,627	3,289
Colorado (exclusive of Denver).....	2	4	6	17	12	67	937	755
Connecticut.....	22	109	518	1,325	675	711	486	194
Delaware.....	2	7	2	2	9	.....	2	16
District of Columbia.....	7	5	9	8	7	9	9	3
Florida.....	6	15	35	123	118	68	72	74
Georgia.....	64	74	81	128	162	179	149	268
Illinois.....	125	108	417	633	1,069	809	735	765

Number of cases of influenza reported by States from Jan. 22 to Mar. 18, 1922, inclusive, by weeks—Continued.

State.	Number of cases reported during week ended—							
	Janu- ary.	February—				March—		
	28	4	11	18	25	4	11	18
Kansas.....	121	364	440	430	901	626	537	534
Kentucky.....	51	332	640	705	748	1,068	495	.....
Louisiana.....	8	10	39	36	368	469	1,608	3,537
Maine.....	14	97	145	131	441	457	352	233
Maryland.....	93	110	189	263	431	612	814	728
Massachusetts.....	66	398	1,409	1,764	1,285	904	521	292
Minnesota.....		2	12	10	44	71	209	245
Missouri.....	20	71	99	234	313	406	279	491
Montana.....		1	.....	.....	188	178	263	674
Nebraska.....		6	6	10	161	66	119	157
New Jersey.....	126	426	1,288	1,555	918	512	221	117
New Mexico.....		10	14	25	92	304	299	437
New York (exclusive of New York City).....	173	694	771	1,577	1,598	1,774	1,973	1,796
New York City.....	1,230	5,731	7,070	3,284	1,312	593	310	173
Oregon.....	7	31	168	442	616	782	250	158
Texas.....	5	57	141	123	76	353	1,181	240
Vermont.....	1	7	2	12	1	2	15	9
Washington.....	33	176	1,061	902	360	389	81	116
West Virginia.....		.....	62	59	82	446	178	143
Wisconsin.....	22	24	37	23	73	129	321	543
Total.....	2,337	9,179	15,893	18,382	22,285	22,352	17,562	16,877
Number of States reporting cases.....	24	28	28	28	29	28	29	28

DEATHS FROM INFLUENZA AND PNEUMONIA COMBINED.

IN CERTAIN LARGE CITIES OF THE UNITED STATES, JANUARY 22 TO MARCH 18, 1922.

The accompanying table gives the number of reported deaths from influenza and pneumonia (all forms), combined, by weeks, from January 22 to March 18, 1922, inclusive, in 63 large cities of the United States.

The data were furnished by city health officers. Use was made of the figures contained in the "Weekly Health Index," issued by the Bureau of the Census, in supplying deficiencies in the figures.

On pages 642-644 of the Public Health Reports for March 17, 1922, appears a table giving the number of deaths from influenza and pneumonia (all forms), combined, in 36 of these cities during the first 10 weeks of the years 1919, 1920, 1921, and 1922.

The population of the 63 cities, estimated as of July, 1921, is approximately 27,500,000.

Number of deaths from influenza and pneumonia (all forms) combined, in large cities, from Jan. 22 to Mar. 18, 1922, inclusive, by weeks.

City.	Number of cases reported during week ended—							
	January.	February.				March.		
	28	4	11	18	25	4	11	18
Birmingham, Ala.....	6	13	4	4	14	9	7	7
Los Angeles, Calif.....	21	26	29	33	79	84	69	64
Oakland, Calif.....	6	8	8	12	12	16	18	.....
San Francisco, Calif.....	12	9	15	36	79	51	31	.....
Denver, Colo.....	17	18	16	19	22	26	40	29
Bridgeport, Conn.....	3	4	3	8	19	9	5	5
Hartford, Conn.....	2	3	3	7	4	6	4	1
New Haven, Conn.....	4	13	10	14	30	27	23	23
Wilmington, Del.....	5	9	8	6	8	8	9	1
Washington, D. C.....	27	25	22	27	26	27	22	21
Atlanta, Ga.....	7	20	17	11	16	13	20	12
Chicago, Ill.....	65	72	80	56	94	139	150	130
Indianapolis, Ind.....	17	29	42	39	38	36	24	20
Kansas City, Kans.....	6	5	5	13	21	16	11	.....
Louisville, Ky.....	7	16	24	28	25	19	16	15
New Orleans, La.....	13	19	25	20	19	31	52	37
Baltimore, Md.....	26	29	27	29	40	47	71	63
Boston, Mass.....	28	33	38	51	83	84	61	67
Cambridge, Mass.....	4	7	7	8	9	8	16	4
Fall River, Mass.....	6	5	7	9	22	29	24	15
Lowell, Mass.....	4	4	6	5	13	11	4	5
New Bedford, Mass.....	1	1	5	8	8	25	13	13
Springfield, Mass.....	4	7	0	6	5	8	9	4
Worcester, Mass.....	7	16	16	16	15	13	4	5
Detroit, Mich.....	33	34	54	45	71	93	104	86
Grand Rapids, Mich.....	.....	4	2	1	2	5	3	4
Minneapolis, Minn.....	9	6	9	4	8	19	20	31
St. Paul, Minn.....	3	8	6	6	5	9	18	28
Kansas City, Mo.....	25	25	28	39	71	52	41	34
St. Louis, Mo.....	42	44	58	68	71	108	83	83
Omaha, Nebr.....	12	16	12	11	17	16	9	6
Camden, N. J.....	7	11	4	3	12	4	7	9
Jersey City, N. J.....	14	25	30	28	34	20	20	14
Newark, N. J.....	26	33	33	46	37	28	20	15
Paterson, N. J.....	8	11	16	19	23	12	11	12
Trenton, N. J.....	11	22	23	10	24	13	3	8
Albany, N. Y.....	.....	6	13	7	8	10	13	10
Buffalo, N. Y.....	19	21	15	15	20	22	36	31
New York, N. Y.....	302	481	596	576	548	404	331	287
Rochester, N. Y.....	14	6	7	14	11	11	18	26
Syracuse, N. Y.....	6	7	7	7	.....	7	3	5
Yonkers, N. Y.....	7	9	12	18	9	7	4	2
Akron, Ohio.....	4	4	4	6	11	17	9	10
Cincinnati, Ohio.....	19	21	27	41	54	49	42	32
Cleveland, Ohio.....	28	25	18	25	60	55	61	62
Columbus, Ohio.....	10	8	6	10	11	13	20	19
Toledo, Ohio.....	12	7	6	5	6	10	15	19
Youngstown, Ohio.....	9	12	11	11	8	13	17	16
Portland, Oreg.....	6	5	15	17	27	32	28	25
Philadelphia, Pa.....	86	85	91	101	162	136	143	134
Pittsburgh, Pa.....	47	60	80	109	99	92	60	38
Providence, R. I.....	17	11	15	26	32	39	19	22
Memphis, Tenn.....	12	10	18	16	21	21	7	13
Nashville, Tenn.....	3	5	5	4	10	17	16	12
Dallas, Tex.....	7	12	9	7	12	19	15	10
Fort Worth, Tex.....	2	11	2	10	9	5	7	9
Houston, Tex.....	3	3	5	3	2	3	7	5
Salt Lake City, Utah.....	7	5	11	3	10	7	12	12
Norfolk, Va.....	5	3	3	4	14	12	11	4
Richmond, Va.....	4	8	9	12	21	19	8	8
Seattle, Wash.....	5	18	24	39	17	22	13	8
Spokane, Wash.....	7	3	4	9	9	12	12	4
Milwaukee, Wis.....	8	18	11	14	14	11	18	17
Total.....	1,131	1,491	1,716	1,854	2,281	2,186	1,987	1,711
Number of cities reporting deaths.....	61	62	63	63	62	63	63	60

EXAMINATIONS OF NATIONAL BOARD OF MEDICAL EXAMINERS.¹

The dates for the next two examinations of the National Board of Medical Examiners have been announced by the Board as follows:

Parts I and II, June 19, 20, 21, 22, and 23, 1922.

Parts I and II, September 25, 26, 27, 28, and 29, 1922.

Applications for the June examination should be in the office of the secretary not later than May 15, and for the September examination not later than June 1. Application blanks and circulars of information may be had by writing to the secretary, Dr. J. S. Rodman, 1310 Medical Arts Building, Philadelphia, Pa.

DEATHS DURING WEEK ENDED MAR. 11, 1922.

Summary of information received by telegraph from industrial insurance companies for week ended Mar. 11, 1922, and corresponding week, 1921. (From the Weekly Health Index, Mar. 14, 1922, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Mar. 11, 1922.	Corresponding week, 1921.
Policies in force.....	49, 189, 044	46, 177, 180
Number of death claims.....	11, 530	9, 440
Death claims per 1,000 policies in force, annual rate.....	12. 2	10. 7

Deaths from all causes in certain large cities of the United States during the week ended Mar. 11, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, Mar. 14, 1922, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1921.	Week ended Mar. 11, 1922.		Annual death rate per 1,000 corre- sponding week, 1921.	Deaths under 1 year.		Infant mor- tality rate, week ended Mar. 11 1922. ³
		Total deaths.	Death rate. ¹		Week ended Mar 11, 1922.	Corre- sponding week, 1921.	
Total.....	27, 406, 374	8, 877	16. 8	14. 0	1, 187	1, 035	.....
Akron, Ohio.....	² 208, 435	37	9. 3	9. 3	7	12	74
Albany, N. Y.....	115, 071	55	24. 9	14. 0	6	4	135
Atlanta, Ga.....	220, 047	82	19. 4	14. 1	4	9	.....
Baltimore, Md.....	750, 864	289	20. 1	20. 1	44	36	124
Birmingham, Ala.....	186, 133	44	12. 3	11. 2	4	4	.....
Boston, Mass.....	757, 634	298	20. 5	15. 8	43	28	115
Bridgeport, Conn.....	² 143, 555	39	14. 2	14. 3	7	9	87
Buffalo, N. Y.....	519, 608	182	18. 3	16. 8	34	32	134
Cambridge, Mass.....	110, 444	50	23. 6	13. 7	8	2	146
Camden, N. J.....	119, 672	40	17. 4	24. 0	6	11	93
Chicago, Ill.....	2, 780, 655	855	16. 0	12. 3	135	113	.....
Cincinnati, Ohio.....	403, 418	163	21. 1	18. 5	22	10	147
Cleveland, Ohio.....	831, 138	236	14. 8	12. 6	38	40	96
Columbus, Ohio.....	245, 358	83	17. 6	11. 7	11	7	116
Dallas, Tex.....	165, 282	57	18. 0	12. 3	8	4	.....
Dayton, Ohio.....	² 152, 559	54	18. 5	10. 6	7	3	119

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births—based on deaths under 1 year for the week and estimated births for 1921. Cities left blank are not in the registration area for births.

³ Enumerated population Jan. 1, 1920.

¹ Announcement regarding the new plan of examination and lists of subjects included in the written examinations, Parts I and II, were published in Public Health Reports for Sept. 16, 1921, pp. 2271-2273.

Deaths from all causes in certain large cities of the United States during the week ended Mar. 11, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, Mar. 14, 1922, issued by the Bureau of the Census, Department of Commerce.)—Continued.

City.	Estimated population July 1, 1921.	Week ended Mar. 11, 1922.		Annual death rate per 1,000 corresponding week, 1921.	Deaths under 1 year.		Infant mortality rate, week ended Mar. 11 1922. ³
		Total deaths.	Death rate. ¹		Week ended Mar 11, 1922.	Corresponding week, 1921.	
Denver, Colo.....	263,152	134	26.6	15.3	13	8	.....
Detroit, Mich.....	1,070,450	313	15.2	11.0	64	62	123
Fall River, Mass.....	120,668	78	33.7	26.4	19	17	265
Fort Worth, Tex.....	111,423	33	15.4	.....	4	.....	.....
Grand Rapids, Mich.....	141,197	37	13.7	8.5	8	4	133
Houston, Tex.....	144,340	38	13.7	10.5	5	3	.....
Indianapolis, Ind.....	325,632	98	15.7	13.1	14	10	107
Jersey City, N. J.....	302,788	83	14.3	15.8	12	13	76
Kansas City, Kans.....	103,884	46	23.1	13.1	7	2	162
Kansas City, Mo.....	336,157	128	19.9	15.5	13	8	.....
Los Angeles, Calif.....	614,160	261	22.2	14.0	19	13	79
Louisville, Ky.....	236,063	74	16.3	16.8	12	5	130
Lowell, Mass.....	113,757	36	16.5	14.7	5	4	84
Memphis, Tenn.....	165,656	47	14.8	14.2	6	6	.....
Milwaukee, Wis.....	468,386	105	11.7	12.5	20	17	98
Minneapolis, Minn.....	392,815	105	13.9	11.9	13	10	71
Nashville, Tenn.....	122,036	51	21.8	17.1	5	6	.....
New Bedford, Mass.....	125,012	46	19.2	12.5	9	9	134
New Haven, Conn.....	167,007	84	26.2	19.7	10	6	122
New Orleans, La.....	384,657	180	23.8	17.7	25	14	.....
New York, N. Y.....	5,751,867	1,650	13.0	13.5	221	192	86
Newark, N. J.....	424,885	151	18.5	14.0	18	15	80
Norfolk, Va.....	121,260	39	16.8	14.2	4	6	71
Oakland, Calif.....	226,472	74	17.0	11.7	9	3	113
Omaha, Nebr.....	197,066	55	14.6	14.8	4	8	43
Paterson, N. J.....	137,463	48	18.2	14.0	7	11	108
Philadelphia, Pa.....	1,866,212	651	18.2	16.4	67	74	79
Pittsburgh, Pa.....	602,452	187	16.2	14.9	29	26	93
Portland, Oreg.....	264,850	89	17.5	10.8	12	1	119
Providence, R. I.....	239,645	83	18.1	12.8	12	9	95
Richmond, Va.....	175,686	47	13.9	13.9	7	6	85
Rochester, N. Y.....	305,229	83	14.2	12.6	9	16	69
St. Louis, Mo.....	786,164	300	19.9	13.1	16	18	.....
St. Paul, Minn.....	237,781	67	14.7	14.7	13	7	122
Salt Lake City, Utah.....	121,595	40	17.2	8.6	4	4	60
San Francisco, Calif.....	520,546	203	20.3	13.7	12	7	69
Seattle, Wash.....	315,312	56	9.3	8.4	4	8	34
Spokane, Wash.....	104,442	41	20.5	13.5	5	2	107
Springfield, Mass.....	135,877	30	11.5	15.7	6	8	80
Syracuse, N. Y.....	177,265	43	12.6	15.9	1	6	12
Toledo, Ohio.....	253,696	69	14.2	11.3	12	6	117
Trenton, N. J.....	122,760	37	15.7	18.7	8	10	122
Washington, D. C.....	437,571	149	17.8	14.6	14	21	80
Wilmington, Del.....	113,408	43	19.8	12.0	6	7	117
Worcester, Mass.....	184,972	34	9.6	14.9	7	7	76
Yonkers, N. Y.....	103,324	26	13.1	14.1	4	4	83
Youngstown, Ohio.....	139,432	41	15.3	11.6	6	3	119

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births—based on deaths under 1 year for the week and estimated births for 1921. Cities left blank are not in the registration area for births.

³ Enumerated population Jan. 1, 1920.

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended Mar. 18, 1922.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

ALABAMA.		CALIFORNIA—continued.	
	Cases.		Cases.
Cerebrospinal meningitis.....	1	Smallpox:	
Chicken pox.....	16	San Jose.....	9
Diphtheria.....	1	Santa Clara County.....	12
Hookworm disease.....	1	Scattering.....	26
Influenza:		Typhoid fever.....	6
Barbour County.....	79	Typhus fever—Los Angeles.....	1
Coffee County.....	47		
Jefferson County.....	158		
Scattering.....	56		
Malaria.....	1		
Measles.....	14		
Pneumonia.....	6		
Smallpox.....	13		
Tuberculosis.....	7		
Typhoid fever.....	10		
ARKANSAS.		COLORADO.	
	Cases.		Cases.
Chicken pox.....	40	(Exclusive of Denver.)	
Diphtheria.....	10	Chicken pox.....	2
Hookworm disease.....	1	Diphtheria.....	10
Influenza.....	529	Influenza.....	755
Malaria.....	12	Measles.....	34
Measles.....	1	Mumps.....	5
Pellagra.....	4	Pneumonia.....	17
Scarlet fever.....	4	Poliomyelitis.....	1
Smallpox.....	29	Scarlet fever.....	30
Trachoma.....	1	Smallpox.....	5
Tuberculosis.....	4		
Typhoid fever.....	1		
CALIFORNIA.		CONNECTICUT.	
	Cases.		Cases.
Cerebrospinal meningitis:		Cerebrospinal meningitis.....	2
San Bernardino.....	1	Chicken pox.....	41
San Jose.....	1	Diphtheria:	
Diphtheria.....	174	Hartford.....	9
Influenza.....	3,289	Scattering.....	39
Lethargic encephalitis:		German measles.....	9
Los Angeles.....	3	Influenza.....	194
Measles.....	15	Lethargic encephalitis.....	1
Scarlet fever.....	109	Measles:	
		Hartford.....	6
		New Haven.....	41
		New London.....	12
		Stamford.....	60
		Scattering.....	23
		Mumps.....	17
		Pneumonia (lobar).....	68
		Scarlet fever:	
		Bridgeport.....	15
		New Haven.....	12
		Scattering.....	46
		Septic sore throat.....	1

CONNECTICUT—continued.

Smallpox:	Cases.
Westport.....	16
Scattering.....	12
Tetanus.....	1
Tuberculosis (all forms).....	36
Whooping cough.....	29

DELAWARE.

Chicken pox.....	17
Diphtheria.....	5
Influenza.....	16
Pneumonia.....	6
Scarlet fever:	
Wilmington.....	81
Scattering.....	15
Tuberculosis.....	5

FLORIDA.

Diphtheria.....	18
Influenza.....	74
Malaria.....	11
Paratyphoid fever.....	1
Pneumonia.....	4
Scarlet fever.....	3
Smallpox.....	20
Trachoma.....	6
Typhoid fever.....	6

GEORGIA.

Cerebrospinal meningitis.....	1
Chicken pox.....	13
Conjunctivitis (infectious).....	3
Diphtheria.....	3
Hookworm disease.....	3
Influenza.....	268
Malaria.....	13
Measles.....	10
Mumps.....	7
Pneumonia.....	21
Scarlet fever.....	17
Septic sore throat.....	2
Smallpox.....	19
Trachoma.....	2
Tuberculosis (pulmonary).....	3
Typhoid fever.....	9
Whooping cough.....	21

ILLINOIS.

Cerebrospinal meningitis:	
Chicago.....	2
Coles County—East Oakland Township..	1
Diphtheria:	
Chicago.....	155
Scattering.....	84
Influenza:	
Chicago.....	126
Scattering.....	639
Lethargic encephalitis:	
Chicago.....	1
East St. Louis.....	1
Eldorado.....	1
Pneumonia.....	628
Poliomyelitis:	
Chicago.....	1
East St. Louis.....	1
McLean County—Cheney Grove Town-	
ship.....	1

ILLINOIS—continued.

Scarlet fever:	Cases.
Chicago.....	121
Du Page County—Lisle Township.....	21
Scattering.....	168
Smallpox:	
Peoria.....	10
Scattering.....	25
Typhoid fever.....	9
Whooping cough.....	111

INDIANA.

Cerebrospinal meningitis:	
Lake County.....	1
Vigo County.....	1
Diphtheria.....	63
Rabies in animals—Clark County.....	1
Scarlet fever.....	92
Smallpox.....	36
Typhoid fever.....	2

IOWA.

Diphtheria.....	14
Scarlet fever.....	62
Smallpox.....	26

KANSAS.

Chicken pox.....	67
Diphtheria.....	43
Influenza.....	524
Measles.....	9
Mumps.....	34
Pneumonia.....	97
Scarlet fever.....	87
Smallpox.....	26
Tuberculosis.....	48
Typhoid fever.....	2
Whooping cough.....	29

LOUISIANA.

Diphtheria.....	15
Influenza.....	3,527
Poliomyelitis.....	1
Smallpox.....	16
Typhoid fever.....	23

MARYLAND.¹

Chicken pox.....	91
Diphtheria.....	48
Dysentery.....	2
German measles.....	4
Influenza.....	728
Lethargic encephalitis.....	3
Measles.....	233
Mumps.....	104
Ophthalmia neonatorum.....	2
Pneumonia (all forms).....	236
Scarlet fever.....	94
Septic sore throat.....	8
Tuberculosis.....	60
Typhoid fever.....	7
Vincent's angina.....	1
Whooping cough.....	16

MASSACHUSETTS.

Anthrax.....	1
Cerebrospinal meningitis.....	6
Chicken pox.....	114

¹ Week ended Friday.

MASSACHUSETTS—continued.

	Cases.
Conjunctivitis (suppurative).....	6
Diphtheria.....	163
German measles.....	8
Influenza.....	292
Lethargic encephalitis.....	5
Measles.....	538
Mumps.....	129
Ophthalmia neonatorum.....	9
Pneumonia (lobar).....	208
Poliomyelitis.....	1
Scarlet fever.....	229
Tetanus.....	1
Tuberculosis (all forms).....	195
Typhoid fever.....	7
Whooping cough.....	128

MINNESOTA.

Cerebrospinal meningitis.....	1
Chicken pox.....	9
Diphtheria.....	48
Influenza.....	245
Measles.....	19
Pneumonia.....	18
Scarlet fever.....	176
Smallpox.....	103
Tuberculosis.....	59
Typhoid fever.....	6

MISSISSIPPI.

Diphtheria.....	7
Scarlet fever.....	4
Smallpox.....	25
Typhoid fever.....	9

MISSOURI.

Chicken pox.....	19
Diphtheria.....	60
Epidemic sore throat.....	19
Influenza.....	491
Measles.....	6
Mumps.....	23
Pneumonia.....	45
Scarlet fever.....	54
Smallpox.....	26
Trachoma.....	9
Tuberculosis.....	39
Typhoid fever.....	2
Whooping cough.....	5

MONTANA.

Diphtheria.....	13
Influenza.....	674
Scarlet fever.....	19
Smallpox.....	27
Typhoid fever.....	1

NEBRASKA.

Cerebrospinal meningitis—Omaha.....	1
Chicken pox.....	16
Diphtheria:	
Thomas County.....	9
Scattering.....	5
Influenza.....	157

NEBRASKA—continued.

	Cases.
Measles:	
Fremont.....	19
Hastings.....	21
Lincoln.....	13
Omaha.....	27
Scattering.....	21
Mumps.....	11
Pneumonia.....	1
Scarlet fever:	
Cedar County.....	9
Crofton.....	9
Hartington.....	27
Scattering.....	28
Septic sore throat.....	1
Smallpox.....	10
Tuberculosis.....	2
Typhoid fever.....	3
Whooping cough.....	2

NEW JERSEY.

Cerebrospinal meningitis.....	3
Chicken pox.....	162
Diphtheria.....	111
Influenza.....	117
Measles.....	544
Pneumonia.....	199
Poliomyelitis.....	2
Scarlet fever.....	303
Trachoma.....	3
Typhoid fever.....	6
Whooping cough.....	88

NEW MEXICO.

Chicken pox.....	6
Diphtheria.....	21
Influenza.....	437
Measles.....	1
Mumps.....	5
Pneumonia.....	39
Scarlet fever:	
Albuquerque.....	12
Scattering.....	6
Trachoma.....	1
Tuberculosis.....	23

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis.....	4
Diphtheria.....	137
Influenza.....	1,796
Lethargic encephalitis.....	3
Measles.....	406
Pneumonia.....	599
Poliomyelitis.....	1
Scarlet fever.....	294
Typhoid fever.....	12
Whooping cough.....	203

NORTH CAROLINA.

Chicken pox.....	247
Diphtheria.....	32
German measles.....	3
Measles.....	34

NORTH CAROLINA—continued.

	Cases.
Poliomyelitis.....	2
Scarlet fever.....	24
Septic sore throat.....	9
Smallpox.....	45
Trachoma.....	1
Typhoid fever.....	7
Whooping cough.....	171

OREGON.

Cerebrospinal meningitis.....	2
Chicken pox.....	40
Diphtheria:	
Lebanon.....	11
Portland.....	11
Scattering.....	4
Influenza.....	158
Measles.....	1
Mumps.....	6
Pneumonia.....	113
Scarlet fever.....	15
Septic sore throat.....	2
Smallpox:	
Portland.....	27
Scattering.....	5
Tuberculosis.....	10
Typhoid fever.....	1
Whooping cough.....	5

SOUTH DAKOTA.

Chicken pox.....	6
Diphtheria.....	4
Influenza.....	51
Measles.....	1
Scarlet fever.....	24
Smallpox.....	32
Tuberculosis.....	1
Whooping cough.....	2

TEXAS.

Diphtheria.....	17
Influenza.....	240
Measles.....	105
Pellagra.....	4
Pneumonia.....	97
Scarlet fever.....	15
Smallpox.....	18

VERMONT.

Chicken pox.....	13
Diphtheria.....	1
Influenza.....	9
Measles.....	12
Mumps.....	21
Pneumonia.....	4
Poliomyelitis.....	1

VERMONT—continued.

	Cases.
Scarlet fever.....	37
Whooping cough.....	8

VIRGINIA.

Smallpox:	
Powhatan County.....	1
Smyth County.....	1

WASHINGTON.

Chicken pox.....	62
Diphtheria.....	10
Influenza.....	116
Measles.....	5
Mumps.....	82
Pneumonia.....	8
Scarlet fever:	
Seattle.....	8
Scattering.....	16
Smallpox.....	37
Tuberculosis.....	39
Typhoid fever.....	3
Whooping cough.....	25

WEST VIRGINIA.

Diphtheria.....	9
Influenza:	
Princeton.....	106
Scattering.....	37
Scarlet fever.....	8
Typhoid fever.....	1

WISCONSIN.

Milwaukee:	
Cerebrospinal meningitis.....	2
Chicken pox.....	32
Diphtheria.....	13
German measles.....	4
Influenza.....	4
Measles.....	1
Pneumonia.....	9
Scarlet fever.....	25
Smallpox.....	4
Tuberculosis.....	14
Typhoid fever.....	1
Whooping cough.....	32
Scattering:	
Chicken pox.....	53
Diphtheria.....	37
German measles.....	6
Influenza.....	539
Measles.....	13
Pneumonia.....	2
Scarlet fever.....	111
Smallpox.....	26
Tuberculosis.....	39
Typhoid fever.....	9
Whooping cough.....	37

Delayed Reports for Week Ended Mar. 11, 1922.

DISTRICT OF COLUMBIA.

	Cases.
Chicken pox.....	36
Diphtheria.....	7
Influenza.....	9
Lethargic encephalitis.....	1
Measles.....	3

¹ Deaths.

DISTRICT OF COLUMBIA—continued.

	Cases.
Scarlet fever.....	6
Smallpox.....	4
Tuberculosis.....	39
Typhoid fever.....	1
Whooping cough.....	3

KENTUCKY.

	Cases.
Chicken pox.....	19
Diphtheria.....	13
Influenza:	
Bourbon County.....	29
Caldwell County.....	33
Crittenden County.....	46
Graves County.....	24
Hardin County.....	29
Jefferson County.....	68
Perry County.....	44
Scott County.....	50
Scattering.....	172
Measles:	
Fulton County.....	15
Jefferson County.....	65
Scattering.....	7

KENTUCKY—continued.

	Cases.
Mumps.....	4
Pneumonia.....	67
Scabies.....	4
Scarlet fever.....	14
Smallpox.....	17
Tonsillitis.....	1
Trachoma.....	2
Tuberculosis:	
Jefferson County.....	37
Scattering.....	14
Typhoid fever.....	3
Vincent's angina.....	1
Whooping cough.....	4

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Pollomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
February, 1922.										
Alabama.....		56	165	72	12	7		27	173	56
Arkansas.....	2	15	773	91	18	19	1	32	24	20
Connecticut.....	12	253	2,996		534		4	368	65	7
District of Columbia.....		84	33		24			58	14	6
Idaho.....		27	365		1			55	15	2
Louisiana.....	2	90	569	55	19	9	1	49	96	63
Michigan.....		662	170		1,122		2	969	132	40
Nebraska.....	2	110	278		555		2	422	102	7
Vermont.....		7	33		32			212		8
Wisconsin.....	9	339	237		64		2	721	215	16

RECIPROCAL NOTIFICATION.

Connecticut—February, 1922.

Cases of communicable diseases referred during February, 1922, to other State health departments by department of health of the State of Connecticut.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Scarlet fever:		
Sharon.....	State department of health, Albany, N. Y.	Milk from farm on which case of scarlet fever occurred was shipped to Coleman Station, N. Y.
Hartford.....	State department of public health, Boston, Mass.	Patient became ill in Hartford, Conn.; shortly after her arrival from Springfield, Mass.
Do.....	State board of health, Concord, N. H.	Patient's home was in Greenville, N. H. Became ill with scarlet fever shortly after her arrival in Hartford.
Smallpox:		
Milford.....	State department of public health, Boston, Mass.	Student at Williston Academy, Easthampton, Mass., was exposed to smallpox in Milford, Conn.
Bridgeport.....	State board of health, Trenton, N. J.	Person from East Orange, N. J., had visited a family in Bridgeport where there was suspected smallpox.
New London.....	State board of health, Columbia, S. C.	Patient became ill with smallpox eight days after arriving from Southern Pines, S. C.

Cases of communicable diseases referred during February, 1922, to other State health departments by department of health of the State of Connecticut—Continued.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Tuberculosis (pulmonary):		
Guilford.....	State department of health, Albany, N. Y.	Patient was employed in New York City. Was taken ill and returned to home in Guilford, developing an extensive active tuberculosis.
Killingworth.....	do.....	Patient recently moved to Killingworth, Conn., from her previous home in Brooklyn.
West Haven.....	do.....	Patient formerly lived in New York City.
Beacon Falls.....	do.....	Chronic tuberculosis case came to Beacon Falls, Conn., from Lyons Falls, N. Y., in September.

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922.

ANTHRAX.

City.	Cases.	Deaths.
Pennsylvania:		
Philadelphia.....	1	.....

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 4, 1922.		City.	Median for previous years.	Week ended Mar. 4, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
California:				New Jersey:			
San Francisco.....	1	1	.....	Garfield.....	0	.....	1
Santa Ana.....	.....	.....	1	Newark.....	1	2	1
Connecticut:				New York:			
Bridgeport.....	0	1	2	Hornell.....	.....	.....	1
New Haven.....	0	1	.....	New York.....	7	2	.....
Georgia:				Ohio:			
Atlanta.....	0	1	3	Dayton.....	0	1	.....
Illinois:				Pennsylvania:			
Chicago.....	3	.....	1	Johnstown.....	0	1	.....
Rockford.....	0	1	.....	Pittsburgh.....	1	1	.....
Kansas:				Washington:			
Hutchinson.....	0	1	1	Seattle.....	0	1	.....
Maine:				West Virginia:			
Bath.....	0	1	1	Bluefield.....	0	.....	1
Massachusetts:				Wisconsin:			
Boston.....	0	1	.....	Green Bay.....	0	2	2
Southbridge.....	0	.....	1	Milwaukee.....	0	2	.....
Michigan:							
Alpena.....	.....	.....	1				
Flint.....	0	.....	2				

DIPHTHERIA.

See p. 719; also Telegraphic weekly reports from States, p. 706, and Monthly summaries by States, p. 710.

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

INFLUENZA.

City.	Cases.		Deaths, week ended Mar. 4, 1922.	City.	Cases.		Deaths, week ended Mar. 4, 1922.
	Week ended Mar. 5, 1921.	Week ended Mar. 4, 1922.			Week ended Mar. 5, 1921.	Week ended Mar. 4, 1922.	
Alabama:				Maine:			
Birmingham.....			3	Auburn.....		1	
Mobile.....			1	Lewiston.....		8	
Tuscaloosa.....		7		Portland.....		33	
Arkansas:				Sanford.....		232	
Fort Smith.....	1			Maryland:			
Little Rock.....		20		Baltimore.....	239	384	6
California:				Cumberland.....	3	42	
Alameda.....	2			Massachusetts:			
Bakersfield.....		27		Arlington.....		2	1
Berkeley.....	11			Attleboro.....		14	
Long Beach.....		88		Belmont.....		10	
Los Angeles.....	4	3,061	39	Boston.....	5	207	9
Oakland.....	6	149	7	Braintree.....		47	
Pasadena.....		284		Brookline.....		10	
Riverside.....		10		Cambridge.....		75	1
Sacramento.....	16	75	3	Chelsea.....		2	
San Diego.....	5	512	8	Clinton.....		6	
San Francisco.....	14	489	31	Danvers.....		1	1
Santa Ana.....		256		Everett.....	2	61	1
Santa Cruz.....		51		Fall River.....	1	43	12
Stockton.....		143		Framingham.....		7	
Colorado:				Haverhill.....		16	
Denver.....			2	Leominster.....		2	1
Connecticut:				Lowell.....		6	1
Bridgeport.....		10	6	Lynn.....		5	3
Bristol.....		1		Malden.....		6	
Greenwich.....		1	1	Melrose.....		1	1
Hartford.....		4	1	New Bedford.....		8	1
Meriden.....		55		Newton.....		3	
Milford.....		1	1	Peabody.....		3	1
New Britain.....	9	70	3	Pittsfield.....		6	
New Haven.....		25	1	Quincy.....		8	
District of Columbia:				Salem.....	1		
Washington.....	4	9	4	Saugus.....	2	27	
Florida:				Somerville.....	1	9	1
Tampa.....		8		Southbridge.....		18	
Georgia:				Springfield.....		5	1
Atlanta.....		21		Waltham.....		1	
Brunswick.....	6	11		Watertown.....		5	
Lagrange.....	1			Woburn.....			1
Rome.....		32		Worcester.....	6		1
Savannah.....		1		Michigan:			
Idaho:				Battle Creek.....	1		
Boise.....		134	1	Detroit.....	3	139	8
Illinois:				Flint.....		3	
Champaign.....		5		Kalamazoo.....	2		
Chicago.....	14	427		Minnesota:			
Cicero.....		2		Duluth.....		19	
Danville.....	2	4		Minneapolis.....		27	3
Decatur.....		4		St. Paul.....		7	
East St. Louis.....		10		Winona.....		2	
Oak Park.....		2		Missouri:			
Peoria.....			1	Independence.....			4
Rockford.....		4		Kansas City.....	3	18	15
Rock Island.....		1	1	St. Louis.....	2	40	5
Indiana:				Montana:			
Indianapolis.....			6	Billings.....		57	
La Fayette.....		4		Great Falls.....	1	3	1
Iowa:				Missoula.....		266	
Cedar Rapids.....		2		Nevada:			
Kansas:				Reno.....		120	1
Kansas City.....		6		New Hampshire:			
Lawrence.....		6		Dover.....		15	
Parsons.....		1	1	New Jersey:			
Salina.....		59		Asbury Park.....	4	1	
Wichita.....		4	1	Atlantic City.....	1		
Kentucky:				Belleville.....	1	7	
Covington.....		10	2	Clifton.....		6	
Louisville.....		35	1	East Orange.....		3	2
Owensboro.....		2		Garfield.....		4	
Louisiana:				Harrison.....		1	
Baton Rouge.....	2			Jersey City.....		1	
New Orleans.....		15	17				

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

INFLUENZA—Continued.

City.	Cases.		Deaths, week ended Mar. 4, 1922.	City.	Cases.		Deaths, week ended Mar. 4, 1922.
	Week ended Mar. 5, 1921.	Week ended Mar. 4, 1922.			Week ended Mar. 5, 1921.	Week ended Mar. 4, 1922.	
New Jersey—Continued.				Ohio—Continued.			
Kearny.....	7	29	.....	Ironton.....	.....	2	.....
Montclair.....	1	3	.....	Lorain.....	.....	2	.....
Morristown.....	1	.....	.....	Mansfield.....	.....	2	.....
Newark.....	22	214	8	Norwood.....	.....	2	1
Orange.....	.....	2	.....	Toledo.....	.....	70	5
Passaic.....	.....	23	.....	Zanesville.....	.....	3	1
Paterson.....	.....	20	.....	Oklahoma:	.....	.....	.....
Plainfield.....	.....	2	.....	Oklahoma.....	.....	.....	3
Trenton.....	17	3	2	Oregon:	.....	.....	.....
West Hoboken.....	.....	1	.....	Portland.....	2	14	16
West Orange.....	1	1	.....	Pennsylvania:	.....	.....	.....
New Mexico:	.....	.....	.....	Philadelphia.....	10	58	33
Albuquerque.....	.....	215	7	Rhode Island:	.....	.....	.....
New York:	.....	.....	.....	Cranston.....	.....	21	2
Albany.....	.....	141	.....	Providence.....	.....	.....	7
Auburn.....	.....	1	.....	Tennessee:	.....	.....	.....
Buffalo.....	3	20	.....	Memphis.....	.....	.....	4
Cohoes.....	7	.....	.....	Texas:	.....	.....	.....
Elmira.....	.....	1	.....	Beaumont.....	.....	22	.....
Hornell.....	.....	8	.....	Dallas.....	3	16	7
Hudson.....	1	1	1	Fort Worth.....	.....	1	1
Ithaca.....	.....	1	1	Waco.....	.....	.....	1
Jamestown.....	2	18	.....	Utah:	.....	.....	.....
Middletown.....	.....	16	.....	Provo.....	.....	30	.....
Mount Vernon.....	2	17	.....	Salt Lake City.....	.....	1	2
New York.....	101	562	54	Vermont:	.....	.....	.....
Peekskill.....	.....	46	2	Rutland.....	.....	.....	1
Poughkeepsie.....	.....	3	1	Virginia:	.....	.....	.....
Rochester.....	.....	24	1	Lynchburg.....	.....	.....	1
Saratoga Springs.....	2	46	.....	Norfolk.....	.....	62	.....
Schenectady.....	.....	5	.....	Petersburg.....	.....	6	1
Syracuse.....	.....	6	2	Richmond.....	.....	.....	4
Watertown.....	.....	3	1	Roanoke.....	5	39	.....
Yonkers.....	.....	2	1	Washington:	.....	.....	.....
North Carolina:	.....	.....	.....	Vancouver.....	.....	7	.....
Durham.....	.....	.....	1	Walla Walla.....	.....	19	.....
Salisbury.....	1	.....	.....	West Virginia:	.....	.....	.....
North Dakota:	.....	.....	.....	Charleston.....	.....	1	.....
Grand Forks.....	.....	20	.....	Fairmont.....	.....	12	.....
Ohio:	.....	.....	.....	Huntington.....	.....	3	1
Akron.....	.....	14	.....	Wisconsin:	.....	.....	.....
Ashtabula.....	.....	3	.....	Beloit.....	.....	1	.....
Canton.....	.....	.....	2	Kenosha.....	.....	9	.....
Chillicothe.....	.....	4	.....	La Crosse.....	.....	9	.....
Cleveland.....	1	263	2	Madison.....	.....	7	.....
Columbus.....	.....	.....	8	Milwaukee.....	.....	4	.....
Dayton.....	.....	1	.....	Racine.....	.....	6	.....
East Cleveland.....	.....	2	.....	Wyoming:	.....	.....	.....
Hamilton.....	.....	3	.....	Casper.....	.....	20	.....

LETHARGIC ENCEPHALITIS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Indiana:			Ohio:		
Frankfort.....	1	.....	Akron.....	2	.....
Massachusetts:			Oregon:		
Webster.....	1	.....	Portland.....	1	.....
Nebraska:			Wisconsin:		
Omaha.....		1	Milwaukee.....	2	.....

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

MALARIA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Louisiana:		
Tuscaloosa.....	4	.....	New Orleans.....	2	.....
Arkansas:			Massachusetts:		
Little Rock.....	1	.....	Boston.....	5	.....
Florida:			Michigan:		
Tampa.....	2	1	Detroit.....	1	.....
Georgia:			New York:		
Rome.....	1	.....	New York.....	1	.....
Savannah.....	1	.....	Texas:		
Kentucky:			Houston.....		1
Louisville.....	1	.....		
Owensboro.....	1	.....		

MEASLES.

See p. 719; also Telegraphic weekly reports from States, p. 706, and Monthly summaries by States, p. 710.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			South Carolina:		
Montgomery.....		1	Charleston.....		1
Georgia:			Virginia:		
Savannah.....	1	1	Norfolk.....		1

PNEUMONIA (ALL FORMS).

Alabama:			Georgia:		
Birmingham.....		6	Albany.....		1
Montgomery.....	1	.....	Atlanta.....		10
Arkansas:			Rome.....	4	.....
Fort Smith.....		2	Savannah.....		2
North Little Rock.....	2	.....	Idaho:		
California:			Pocatello.....		1
Alameda.....		4	Illinois:		
Long Beach.....		3	Alton.....	3	2
Los Angeles.....	194	45	Aurora.....		3
Oakland.....	10	9	Bloomington.....		3
Pasadena.....		2	Blue Island.....		1
Sacramento.....	10	8	Centralia.....	1	.....
San Bernardino.....		1	Champaign.....	2	.....
San Diego.....	7	2	Chicago.....	664	92
San Francisco.....	30	20	Cicero.....		5
Santa Ana.....		2	Danville.....	3	1
Santa Barbara.....		3	Decatur.....	5	4
Santa Cruz.....		2	East St. Louis.....		5
Stockton.....		7	Elgin.....		2
Colorado:			Evanston.....	1	.....
Denver.....		24	Forest Park.....	1	.....
Pueblo.....		3	Freeport.....	1	.....
Trinidad.....	1	.....	Galesburg.....	3	1
Connecticut:			Kewanee.....	4	.....
Bridgeport.....	8	3	La Salle.....	1	.....
Bristol.....	6	2	Mattoon.....	1	.....
Derby.....		1	Oak Park.....	4	.....
Fairfield.....		2	Peoria.....		6
Greenwich.....	1	.....	Quincy.....	1	.....
Hartford.....	14	5	Rock Island.....	7	3
Meriden.....	5	.....	Rockford.....		2
Milford.....	2	.....	Springfield.....	10	.....
New Britain.....	11	5	Indiana:		
New Haven.....	21	26	Anderson.....		1
New London.....		2	Crawfordsville.....		1
Delaware:			East Chicago.....		6
Wilmington.....		8	Fort Wayne.....		2
District of Columbia:			Gary.....		2
Washington.....		23	Hammond.....		2
Florida:			Indianapolis.....		30
Tampa.....		2	Kokomo.....		1

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Indiana—Continued.			Michigan—Continued.		
La Fayette.....		2	Flint.....	5	2
Loansport.....		5	Grand Rapids.....	3	.....
Muncie.....		2	Kalamazoo.....		1
South Bend.....		3	Marquette.....		1
Terre Haute.....		2	Muskegon.....	1	.....
Iowa:			Pontiac.....	3	.....
Burlington.....		1	Port Huron.....	2	1
Council Bluffs.....		2	Sault Ste. Marie.....	2	1
Kansas:			Minnesota:		
Fort Scott.....	3	2	Austin.....		2
Hutchinson.....	3	.....	Duluth.....		6
Kansas City.....	13	.....	Fairbault.....		2
Lawrence.....	2	1	Hibbing.....	1	.....
Leavenworth.....	4	.....	Minneapolis.....		16
Parsons.....		1	Rochester.....	4	.....
Topeka.....	12	4	St. Paul.....		9
Wichita.....		7	Missouri:		
Kentucky:			Independence.....		5
Covington.....	7	.....	Kansas City.....	55	37
Louisville.....	22	18	St. Joseph.....		19
Louisiana:			Springfield.....		3
New Orleans.....	24	14	Montana:		
Maine:			Great Falls.....	3	1
Auburn.....	3	1	Missoula.....		3
Biddeford.....	1	.....	Nebraska:		
Lewiston.....		5	Lincoln.....		4
Portland.....		7	Omaha.....		16
Sanford.....	9	.....	Nevada:		
Maryland:			Reno.....		2
Baltimore.....	153	41	New Hampshire:		
Cumberland.....	9	2	Berlin.....		1
Massachusetts:			Concord.....		1
Arlington.....		2	New Jersey:		
Attleboro.....		1	Asbury Park.....	1	.....
Belmont.....	4	1	Atlantic City.....	4	1
Beverly.....	2	1	Bellefonte.....	1	.....
Boston.....		75	Bloomfield.....	7	.....
Brockton.....		6	Clifton.....	2	.....
Brookline.....	5	1	East Orange.....	5	1
Cambridge.....	14	.....	Englewood.....	2	1
Chelsea.....	8	6	Garfield.....	3	.....
Chicopee.....		2	Hackensack.....	2	1
Clinton.....		3	Hoboken.....		5
Danvers.....	1	.....	Jersey City.....	9	.....
Everett.....		4	Kearny.....	6	2
Fall River.....		17	Montclair.....	5	3
Framingham.....	3	.....	Morristown.....	2	1
Greenfield.....		1	Newark.....	136	20
Haverhill.....	9	4	Orange.....	4	2
Holyoke.....	5	3	Passaic.....	6	4
Lawrence.....	2	1	Paterson.....	13	.....
Leominster.....	2	1	Plainfield.....	5	1
Lowell.....	14	10	Rahway.....		1
Lynn.....	12	3	Summit.....		3
Malden.....		7	Trenton.....	12	11
Medford.....		1	Union.....	1	.....
Melrose.....		1	West Hoboken.....		1
Methuen.....		1	West Orange.....	1	.....
New Bedford.....	23	8	New Mexico:		
Newton.....	5	3	Albuquerque.....	7	.....
North Adams.....	2	.....	New York:		
Northampton.....		1	Albany.....	45	.....
Peabody.....	2	1	Auburn.....	3	.....
Pittsfield.....	4	2	Buffalo.....	60	21
Plymouth.....		3	Cortland.....	3	.....
Quincy.....		3	Glens Falls.....	2	.....
Somerville.....	9	2	Hornell.....	1	.....
Southbridge.....	2	.....	Hudson.....	2	.....
Springfield.....	7	3	Jamestown.....	6	3
Waltham.....		1	Lockport.....		1
Watertown.....		2	Middletown.....	4	2
Webster.....	1	.....	Mount Vernon.....	6	2
Westfield.....		1	Newburgh.....	4	1
Woburn.....		1	New York.....	955	350
Worcester.....		12	Niagara Falls.....		4
Michigan:			North Tonawanda.....	1	.....
Ann Arbor.....	5	.....	Peekskill.....	10	2
Battle Creek.....	1	.....	Port Chester.....		1
Detroit.....	363	85	Poughkeepsie.....	10	2

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
New York—Continued.			Rhode Island:		
Rochester.....	36	10	Pawtucket.....		7
Rome.....	10	1	Providence.....		32
Saratoga Springs.....	4	1	South Carolina:		
Schenectady.....	9	3	Charleston.....		1
Syracuse.....	13	5	Greenville.....		2
Troy.....		8	South Dakota:		
Watertown.....	5	3	Sioux Falls.....		1
Watervliet.....		1	Tennessee:		
White Plains.....		3	Memphis.....		17
Yonkers.....	12	6	Texas:		
North Carolina:			Beaumont.....		1
Charlotte.....		4	Dallas.....		12
Raleigh.....		1	El Paso.....		5
Rocky Mount.....		1	Fort Worth.....		4
Wilmington.....		3	Houston.....		3
Winston-Salem.....		3	Waco.....		3
Ohio:			Utah:		
Akron.....	9	1	Provo.....	6	
Alliance.....		1	Salt Lake City.....		5
Ashtabula.....		1	Vermont:		
Barberton.....	5	2	Rutland.....	3	
Bucyrus.....	1		Virginia:		
Canton.....		7	Alexandria.....	1	
Chillicothe.....		1	Danville.....		3
Cleveland.....	137	47	Lynchburg.....		1
Columbus.....		11	Norfolk.....		12
Dayton.....	2		Petersburg.....	2	
East Cleveland.....		3	Portsmouth.....		2
Hamilton.....		1	Richmond.....		15
Lancaster.....		3	Roanoke.....	8	1
Lima.....		2	West Virginia:		
Lorain.....	2		Bluefield.....		1
Mansfield.....		1	Charleston.....		2
Middletown.....		1	Clarksburg.....		2
Newark.....		2	Huntington.....		5
Niles.....	2	1	Petersburg.....		2
Norwood.....		1	Wheeling.....		14
Piqua.....	1		Wisconsin:		
Springfield.....		3	Beloit.....		1
Toledo.....		5	Green Bay.....		1
Youngstown.....		13	Kenosha.....		1
Zanesville.....	8	7	Milwaukee.....	7	
Oklahoma:			Superior.....		3
Oklahoma.....		14	Wyoming:		
Oregon:			Casper.....	12	1
Portland.....		16			
Pennsylvania:					
Philadelphia.....	178	103			

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 4, 1922.		City.	Median for previous years.	Week ended Mar. 4, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
California:				New York:			
Los Angeles.....	0	1		Elmira.....	0	4	
Maryland:				New York.....	0	1	
Baltimore.....	0		2	Washington:			
Michigan:				Tacoma.....	0	1	
Detroit.....	0	1		Wisconsin:			
New Jersey:				Milwaukee.....	0	1	
Paterson.....	0	1					

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922 - Continued.

RABIES IN ANIMALS.

City.	Cases.	City.	Cases.
California:		Missouri:	
Los Angeles.....	6	Kansas City.....	1
Georgia:		New Jersey:	
Macon.....	2	Plainfield.....	1

RABIES IN MAN.

City.	Cases.	Deaths.
Rhode Island:		
Providence.....		1

SCARLET FEVER.

See p. 719; also Telegraphic weekly reports from States, p. 706, and Monthly summaries by States, p. 710.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for pre- vious years.	Week ended Mar. 4, 1922.		City.	Median for pre- vious years.	Week ended Mar. 4, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Kentucky:			
Birmingham.....	5	1	.....	Louisville.....	2	1	.....
Mobile.....	3	4	.....	Michigan:			
California:				Detroit.....	7	2	.....
Bakersfield.....	0	4	.....	Muskegon.....	1	5	1
Long Beach.....	0	2	.....	Minnesota:			
Oakland.....	1	1	.....	Duluth.....	1	1	.....
Stockton.....	0	1	.....	Hibbing.....	0	4	.....
Colorado:				Mankato.....	1	1	.....
Denver.....	15	11	2	Minneapolis.....	30	14	.....
Connecticut:				Rochester.....	6	1	.....
Bridgeport.....	0	16	.....	St. Paul.....	16	16	.....
Danbury.....		1	1	Missouri:			
Fairfield.....		1	.....	Kansas City.....	8	7	2
District of Columbia:				St. Joseph.....	3	1	.....
Washington.....	1	2	.....	St. Louis.....	3	3	.....
Georgia:				Montana:			
Albany.....		1	.....	Great Falls.....	1	5	.....
Atlanta.....	11	2	.....	Nebraska:			
Illinois:				Omaha.....	19	3	.....
Aurora.....	0	1	.....	North Carolina:			
Bloomington.....	4	2	.....	Durham.....	0	1	.....
Centralla.....	0	5	.....	North Dakota:			
Chicago.....	3	3	.....	Grand Forks.....	3	2	.....
Peoria.....	1	15	.....	Ohio:			
Indiana:				Dayton.....	0	9	.....
Bloomington.....	0	3	.....	Fremont.....	0	2	.....
Indianapolis.....	7	2	.....	New Philadelphia.....	0	9	.....
Iowa:				Springfield.....	0	19	.....
Burlington.....	0	1	.....	Toledo.....	2	13	.....
Cedar Rapids.....	3	1	.....	Zanesville.....	0	2	.....
Davenport.....	4	3	.....	Oklahoma:			
Muscatine.....	0	2	.....	Oklahoma.....	7	5	.....
Kansas:				Oregon:			
Hutchinson.....	1	4	.....	Portland.....	7	25	.....
Kansas City.....	2	5	.....	South Carolina:			
Leavenworth.....	0	1	.....	Greenville.....	1	1	.....
Topeka.....	1	1	.....	South Dakota:			
Wichita.....	9	9	1	Sioux Falls.....	1	3	.....

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

SMALLPOX—Continued.

City.	Median for pre- vious years.	Week ended Mar. 4, 1922.		City.	Median for pre- vious years.	Week ended Mar. 4, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Texas:				Washington—Continued.			
Dallas.....	9	8	.....	Tacoma.....	3	15	.....
El Paso.....	0	10	2	Walla Walla.....	3	5	.....
Fort Worth.....	5	1	.....	Wisconsin:			
Galveston.....	0	1	.....	Manitowoc.....	0	1	.....
Houston.....	2	2	.....	Milwaukee.....	7	4	.....
Utah:				Racine.....	1	2	.....
Salt Lake City.....	4	5	.....	Superior.....	1	12	.....
Washington:				Waukesha.....	.....	1	.....
Aberdeen.....	0	1	.....	Wausau.....	1	1	.....
Bellingham.....	1	6	.....	Wyoming:			
Everett.....	0	4	.....	Casper.....	.....	1	.....
Seattle.....	3	1	.....			

TETANUS.

City.	Cases.	Deaths.
Pennsylvania:		
Philadelphia.....	1	.....

TUBERCULOSIS.

See p. 719; also Telegraphic weekly reports from States, p. 706.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for pre- vious years.	Week ended Mar. 4, 1922.		City.	Median for pre- vious years.	Week ended Mar. 4, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Massachusetts—Contd.			
Tuscaloosa.....	0	1	.....	Fall River.....	1	2	.....
California:				Northampton.....	0	1	.....
San Francisco.....	2	1	.....	Michigan:			
Connecticut:				Detroit.....	4	2	2
Meriden.....	0	1	.....	Minnesota:			
District of Columbia:				Minneapolis.....	0	1	.....
Washington.....	1	2	.....	Missouri:			
Florida:				Independence.....	0	5	.....
Tampa.....	3	4	1	Joplin.....	0	1	.....
Georgia:				St. Louis.....	1	2	.....
Macon.....	0	1	.....	New Jersey:			
Illinois:				Paterson.....	0	1	.....
Chicago.....	7	2	.....	New York:			
Decatur.....	0	1	.....	Elmira.....	0	1	.....
Rock Island.....	0	1	.....	Hudson.....	0	1	.....
Indiana:				New York.....	14	7	.....
Fort Wayne.....	0	1	.....	Niagara Falls.....	0	4	.....
Hammond.....	0	1	.....	Troy.....	1	.....	1
Muncie.....	0	1	.....	North Carolina:			
Kansas:				Durham.....	0	1	.....
Coffeyville.....	0	1	.....	Ohio:			
Maryland:				Bucyrus.....	0	1	.....
Baltimore.....	4	1	.....	Fremont.....	0	1	.....
Massachusetts:				Hamilton.....	0	1	.....
Boston.....	3	5	.....	Newark.....	0	1	1
Brockton.....	0	1	.....			

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

TYPHOID FEVER—Continued.

City.	Median for previous years.	Week ended Mar. 4, 1922.		City.	Median for previous years.	Week ended Mar. 4, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Oklahoma:				Virginia:			
Oklahoma.....	0	.....	1	Alexandria.....	0	1	.....
Oregon:				Washington:			
Portland.....	0	1	.....	Tacoma.....	0	1	.....
Pennsylvania:				Vancouver.....	0	1	.....
Bristol.....	0	1	.....	West Virginia:			
Philadelphia.....	5	7	1	Charleston.....	0	.....	1
Pottsville.....	0	1	.....	Wisconsin:			
Texas:				Eau Claire.....	0	2	.....
Galveston.....	0	2	.....	La Crosse.....	0	1	.....

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston.....	17,734	.....	2	.....					
Birmingham.....	178,270	44	1	.....	3	.....	2	.....	3	5
Mobile.....	60,151	22		.....						2
Montgomery.....	43,464	22		.....	1	.....			8	3
Tuscaloosa.....	11,996			.....					1	.....
Arkansas:										
Fort Smith.....	28,811	9	1	.....	2	.....	1	.....	
Hot Springs.....	11,695	4		.....						1
Little Rock.....	64,997			.....					3	.....
North Little Rock.....	14,948			.....	1	.....			
California:										
Alameda.....	28,806	10		.....	1	.....	3	.....	
Bakersfield.....	18,638	13	2	1						2
Long Beach.....	55,593	21	6	1			3	.....		1
Los Angeles.....	576,673	305	28	3	1		16		44	36
Oakland.....	216,361	91	10	1	1		5		1	3
Pasadena.....	45,354	17	10		1		3		2	1
Richmond.....	16,843	6		.....					
Riverside.....	19,341	6	1	.....					4	1
Sacramento.....	65,857	31	2	.....					2	.....
San Bernardino.....	18,721	9		.....					3	2
San Diego.....	74,683	40	6		2		9		2	2
San Francisco.....	508,410	250	35	5	3		11		35	14
Santa Ana.....	15,485	7		.....			1		1	1
Santa Barbara.....	19,441	12		.....			1			1
Santa Cruz.....	10,917	5		.....					
Stockton.....	40,296	20	3	.....			3	.....		2
Colorado:										
Denver.....	256,369	96	12	2	3	.....	12	.....		18
Pueblo.....	42,908	16	4	1			2	.....	
Trinidad.....	10,906			.....					1	.....
Connecticut:										
Bridgeport.....	143,538	42	12	.....	4	.....	16	1	6	2
Bristol.....	20,620		1	.....	1	.....				1
Danbury (city).....	18,943	7		.....			1	.....	
Derby.....	11,238	8		.....					
Fairfield (town).....	11,475	3		.....					
Greenwich (town).....	22,123			.....	1	.....			
Hartford.....	138,036	33	10	1	56	.....	4	.....	1	1
Manchester (town).....	18,370	5		.....	2	.....			
Meriden (city).....	29,842		4	.....			1	.....	
Milford (town).....	10,193	3	1	.....			4	.....	
New Britain.....	59,316	14	2	.....			1	.....	
New Haven.....	162,519	71	3	.....	58	1	14	.....	4	3
New London.....	25,688	5	3	.....				.....
Stamford (city).....	35,036			.....	32	.....	2	.....	1	.....
Delaware:										
Wilmington.....	110,168	39	1	.....			55	.....		2
District of Columbia:										
Washington.....	437,571	141	17	.....	8	.....	11	.....	32	19

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Florida:										
Tampa.....	51,252	27	1						2	5
Georgia:										
Atlanta.....	200,616	68	2				6		1	4
Brunswick.....	14,413	1								1
Macon.....	52,996		1		2					
Rome.....	13,252	23	2				5			
Savannah.....	83,252	23					3			4
Valdosta.....	10,733	2								
Idaho:										
Boise.....	21,393	5								
Pocatello.....	15,001	8								
Illinois:										
Alton.....	24,682	9	2		1		1			1
Aurora.....	36,397	12	4		9		1			1
Bloomington.....	28,725	15	1						2	
Blue Island.....	11,424	5	2	1	1		1			
Centralia.....	12,491	6								
Campaign.....	15,873		1		1		7			
Chicago.....	2,701,705	855	173	19	253	1	108	4	164	44
Cicero.....	44,995	14	2		2		4			
Danville.....	33,750	14	2				2		1	
Decatur.....	43,818	17	1						6	4
East St. Louis.....	66,740	17	1							1
Elgin.....	27,454	6								1
Evanston.....	37,215	15	1				4		1	
Forest Park.....	10,768				7					
Freeport.....	19,669	3	1							
Galesburg.....	23,834	7	3							
Kewanee.....	16,026	6	1				2			
La Salle.....	13,050	4								
Mattoon.....	13,552	1	1							
Oak Park.....	39,830	6			5					
Peoria.....	76,121	31	2		1		3		1	
Quincy.....	35,978	16					7			
Rockford.....	65,651	19					10		2	1
Rock Island.....	35,177	11								
Springfield.....	59,183	34			1		1			
Indiana:										
Anderson.....	29,767	5	5	1			5			
Bloomington.....	11,595	2	2				1			
Crawfordsville.....	10,139	1								
East Chicago.....	35,967	13	2	1			3			
Fort Wayne.....	36,549	12	7		3		1		2	
Frankfort.....	11,585	2							1	1
Gary.....	55,378	7								2
Hammond.....	36,004	5	1		1		2			
Huntington.....	14,000	6	2				4			
Indianapolis.....	314,194	121	12	1	27		7		4	10
Kokomo.....	30,067	7					5			
La Fayette.....	22,486	10								
Logansport.....	21,626	11	1	1			1			
Mishawaka.....	15,195	1			2		1			
Muncie.....	38,624	10	1							1
South Bend.....	70,983	11					2		4	1
Terre Haute.....	66,083	15	7	1			5		1	
Iowa:										
Burlington.....	24,057	3							1	
Cedar Rapids.....	45,566		1				2			
Clinton.....	24,151	1	4	1						
Council Bluffs.....	36,162	14					1			
Davenport.....	56,727				1		1			
Dubuque.....	39,141		3				4	1		
Iowa City.....	11,267						2			
Marshalltown.....	15,731						2			
Mason City.....	20,065	5					1			
Muscatine.....	16,068	5								
Ottumwa.....	23,003		4				3			
Sioux City.....	71,227		7				1			
Waterloo.....	36,230				1		3			
Kansas:										
Atchison.....	12,630						1			
Coffeyville.....	13,452	8							1	
Fort Scott.....	10,693	4	5							
Hutchinson.....	23,293						4			
Kansas City.....	101,177		5						4	

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Kansas—Continued.										
Lawrence.....	12,456	5	1		2					
Leavenworth.....	16,912		2							
Parsons.....	16,028	6								
Salina.....	15,085	5					3			
Topeka.....	50,022	19	5	1					4	
Wichita.....	72,128	29	3				9			
Kentucky:										
Covington.....	57,121	24			3					
Louisville.....	234,891	86	9	1	48	2	4		15	5
Owensboro.....	17,424		1							
Paducah.....	24,735		2				1			
Louisiana:										
New Orleans.....	387,219	146	11		1		6		23	12
Maine:										
Auburn.....	16,985	3					3			
Bath.....	14,731	3								
Biddeford.....	18,008	5	1							
Lewiston.....	31,791	15					2			
Portland.....	69,272	24	4	2			1			2
Sanford.....	10,691	2	1				20			2
Maryland:										
Baltimore.....	733,826	244	29	3	156		59		26	23
Cumberland.....	29,837	13	2				5		1	1
Massachusetts:										
Adams.....	12,967	1					1			
Amesbury.....	10,036	1					1			
Arlington.....	18,665	8					1			1
Attleboro.....	19,731	2								
Belmont.....	10,749	5			3					1
Beverly.....	22,561	2	1		2					
Boston.....	748,090	322	76	4	154		40	1	65	26
Braintree.....	10,580	2					1			
Brockton.....	66,138	23	11		5		11		4	1
Brookline.....	37,748	9			6		2			
Cambridge.....	109,694	45	6	2	40		4		5	4
Chelsea.....	43,184	18	5				3		3	1
Chicopee.....	36,214	7	2				3			
Clinton.....	12,979	6							2	
Danvers.....	11,108		3		1					
Dedham.....	10,792						1			
Easthampton.....	11,261	0							1	
Everett.....	40,120	9	10		46		2			
Fall River.....	120,485	87	5	2	2		9		5	8
Framingham.....	17,033	1								1
Gardner.....	16,971	6					1		1	
Greenfield.....	15,462	4			3		5			
Haverhill.....	53,884	15	8						3	2
Holyoke.....	60,203	17	3		3		1			1
Lawrence.....	94,270	28	3	1	38		1		5	
Leominster.....	19,744	9					1		1	
Lowell.....	112,479	45	3		1				11	1
Lynn.....	99,148	27	2		1				5	
Malden.....	49,103	20	5		10		2		4	4
Medford.....	39,038	8								1
Melrose.....	18,204	8	3				2		3	
Methuen.....	15,139	7	1		35		1			
New Bedford.....	121,217	50	6		1		4		8	
Newton.....	46,054	19	2		1				3	
North Adams.....	22,282	5	1							
Northampton.....	21,951	10							2	
Peabody.....	19,552	10	2		16		1			
Pittsfield.....	41,751	10	4				2		2	
Plymouth.....	13,045	7		1						
Quincy.....	47,876	12	1		5		2		1	
Saugus.....	10,874	2			1				2	1
Somerville.....	93,091	20	3		38		9		3	2
Southbridge.....	14,245	4								
Springfield.....	129,563	39	4	1	4		7		2	1
Taunton.....	37,137	9	1	1						
Wakefield.....	13,025	5	1		1		4		1	
Waltham.....	30,915						5			
Watertown.....	21,457	8			19					
Webster.....	13,258	3			1					1
West Springfield.....	13,443	3								
Westfield.....	18,604	7			13					

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Massachusetts—Continued.										
Winthrop.....	15,455	3								
Woburn.....	16,574	5								
Worcester.....	179,754	68		1						3
Michigan:										
Alpena.....	11,101	1	1				1			
Ann Arbor.....	19,516	12								
Battle Creek.....	36,164		1							
Benton Harbor.....	12,233	4	1				1			
Detroit.....	993,739	317	48	4	318	7	86	3	50	22
Flint.....	91,599	18	2				6			
Grand Rapids.....	137,634	48	5			1	19		4	
Holland.....	12,166	2	1				2			
Ironwood.....	15,739	2	1				1			
Ishpeming.....	10,500	2								
Kalamazoo.....	48,853	18	6	1			21		1	2
Marquette.....	12,718	7					1		1	
Muskegon.....	36,570	13	1				2			
Pontiac.....	34,273	5			25		5		2	1
Port Huron.....	25,944	7					1			
Sault Ste. Marie.....	12,096	6	1	1			1			
Minnesota:										
Austin.....	10,118	2								
Duluth.....	98,917	27	2		2		4			1
Faribault.....	11,089	2								
Hibbing.....	15,089	3	2							
Mankato.....	12,469						3		1	
Minneapolis.....	380,582	95	24	1	34		48		19	6
Rochester.....	13,722	23					3		1	4
St. Paul.....	234,595	90	13	2	12		26		11	6
Winona.....	19,143	4	2				3			
Missouri:										
Independence.....	11,686	9	2		1					1
Kansas City.....	324,410	151	10	2	1	1	3	1	6	7
St. Joseph.....	77,939	51	1				5			3
St. Louis.....	772,897	291	42	2	2		13		31	11
Springfield.....	39,631	11								1
Montana:										
Billings.....	15,100	1								
Great Falls.....	24,121	6	3							
Missoula.....	12,668	7							4	
Nebraska:										
Lincoln.....	54,934	20			23		2			
Omaha.....	191,601	72	5		22		5			5
Nevada:										
Reno.....	12,016	10								1
New Hampshire:										
Berlin.....	16,104	5								
Concord.....	22,167	12							2	
Dover.....	13,029	4	2		10					
Keene.....	11,210	3								
New Jersey:										
Asbury Park.....	12,400	1					1			
Atlantic City.....	50,682	10	1		2		4			1
Bayonne.....	76,754		9		6		3		1	
Belleville.....	15,660		1				2			
Bloomfield.....	22,019	4			11		2			
Clifton.....	26,470	3					3			1
East Orange.....	50,710	9	2		2		6		1	
Englewood.....	11,627	4					1			
Garfield.....	19,381	2	1						1	
Hackensack.....	17,667	2					1		1	
Harrison.....	15,721		1		2		2		1	
Hoboken.....	68,166	26	5		7		6			1
Jersey City.....	297,864	24	24		77		17		12	
Kearny.....	26,724	8			2		2		3	
Montclair.....	28,810	7	1				1		1	
Morristown.....	12,548	6					2		3	1
Newark.....	414,216	152	28	4	47		76	1	38	17
Orange.....	33,268	8					14			
Passaic.....	63,824	17	4		2		6		1	1
Paterson.....	135,866		4		43		7		6	
Phillipsburg.....	16,923	4								
Plainfield.....	27,700		1		2		3		1	
Rahway.....	11,042	2	2				1			
Summit.....	10,174	8					1		1	

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New Jersey—Continued.										
Trenton.....	119,299	54	1	.....	9	.....	9	.....	7	3
Union.....	20,651	.....	.....	.....	1	.....	9	.....	1	.....
West Hoboken.....	40,066	7	.....	.....	4	.....	3	.....	2	.....
West New York.....	29,926	2	.....	.....	3	.....	1	1	.....	.....
West Orange.....	15,573	.....	2	.....	.....	.....	2	.....	.....	.....
New Mexico:										
Albuquerque.....	15,157	12	.....	.....	.....	.....	8	.....	.....	1
New York:										
Albany.....	113,344	.....	4	.....	4	.....	3	.....	1	.....
Auburn.....	36,192	7	1	.....	.....	.....	1	.....	.....	.....
Buffalo.....	506,775	149	27	2	.....	.....	41	.....	12	13
Cortland.....	13,294	5	1	.....	.....	.....	.....	.....	.....	.....
Elmira.....	45,305	15	.....	.....	55	.....	2	.....	3	1
Geneva.....	14,648	3	.....	.....	.....	.....	.....	.....	.....	.....
Glen Falls.....	16,633	3	.....	.....	.....	.....	.....	.....	.....	.....
Hornell.....	15,025	1	.....	.....	1	.....	.....	.....	.....	.....
Hudson.....	11,745	4	4	.....	.....	.....	1	.....	.....	1
Ithaca.....	17,004	8	2	1	.....	.....	1	.....	.....	.....
Jamestown.....	38,917	8	3	.....	13	.....	2	.....	7	.....
Lockport.....	21,308	4	.....	.....	.....	.....	1	.....	.....	.....
Middletown.....	18,420	5	.....	.....	.....	.....	.....	.....	.....	.....
Mount Vernon.....	42,726	10	12	.....	2	.....	8	.....	.....	.....
Newburgh.....	30,366	16	2	.....	.....	.....	1	.....	3	2
New York.....	5,621,151	1,666	221	14	1,499	12	340	10	255	107
Niagara Falls.....	50,760	14	2	.....	7	.....	12	.....	1	.....
North Tonawanda.....	15,482	0	6	.....	.....	.....	.....	.....	.....	.....
Ogdensburg.....	14,609	2	.....	.....	.....	.....	.....	.....	.....	.....
Peekskill.....	15,868	10	.....	.....	.....	.....	.....	.....	.....	.....
Port Chester.....	16,573	3	1	.....	.....	.....	2	.....	.....	.....
Poughkeepsie.....	35,000	17	1	.....	59	.....	9	.....	26	1
Rochester.....	295,750	85	19	.....	.....	.....	9	.....	.....	.....
Rome.....	26,341	8	3	.....	10	.....	3	.....	.....	1
Saratoga Springs.....	13,181	5	1	.....	.....	.....	.....	.....	1	1
Schenectady.....	88,723	26	2	1	.....	.....	4	.....	2	.....
Syracuse.....	171,717	66	9	2	1	.....	13	.....	3	3
Troy.....	72,013	23	2	.....	.....	.....	1	.....	4	1
Watertown.....	31,285	13	1	.....	.....	.....	2	.....	.....	.....
Watervliet.....	16,073	5	.....	.....	.....	.....	.....	.....	.....	.....
White Plains.....	21,031	9	.....	.....	8	.....	.....	.....	.....	.....
Yonkers.....	100,226	26	4	.....	5	.....	6	.....	.....	3
North Carolina:										
Charlotte.....	46,338	16	.....	.....	.....	.....	.....	.....	2	1
Durham.....	21,719	7	.....	.....	.....	.....	.....	.....	.....	.....
Raleigh.....	24,418	9	.....	.....	.....	.....	.....	.....	.....	1
Rocky Mount.....	12,742	5	.....	.....	.....	.....	.....	.....	.....	.....
Salisbury.....	13,884	0	.....	.....	.....	.....	.....	.....	.....	.....
Wilmington.....	33,372	15	2	.....	.....	.....	1	.....	1	3
Winston-Salem.....	48,395	15	.....	.....	.....	.....	.....	.....	4	1
North Dakota:										
Fargo.....	21,961	0	.....	.....	.....	.....	3	.....	.....	.....
Ohio:										
Akron.....	208,435	39	10	.....	25	.....	11	.....	10	.....
Alliance.....	21,903	7	1	.....	.....	.....	2	.....	1	1
Ashtabula.....	22,082	7	.....	.....	.....	.....	2	.....	.....	1
Barberton.....	18,811	3	.....	.....	.....	.....	2	.....	2	.....
Bucyrus.....	10,425	3	.....	.....	.....	.....	.....	.....	.....	1
Canton.....	87,091	27	3	1	65	.....	1	.....	.....	1
Chillicothe.....	15,831	8	2	.....	.....	.....	1	.....	.....	.....
Cleveland.....	796,836	225	29	.....	153	3	67	2	68	20
Columbus.....	237,031	77	7	.....	.....	.....	4	.....	4	6
Coshocton.....	10,847	.....	.....	.....	.....	.....	1	.....	.....	.....
Dayton.....	152,559	39	4	.....	.....	.....	3	.....	1	.....
East Cleveland.....	27,292	4	.....	.....	2	.....	1	.....	.....	.....
Findlay.....	17,021	5	1	.....	.....	.....	.....	.....	.....	.....
Fremont.....	12,468	4	.....	.....	.....	.....	1	.....	.....	.....
Hamilton.....	39,675	13	.....	.....	2	1	.....	.....	.....	1
Ironton.....	14,007	8	5	.....	.....	.....	2	.....	1	.....
Lancaster.....	14,706	5	1	.....	.....	.....	.....	.....	.....	.....
Lima.....	41,306	9	3	1	2	.....	2	.....	1	.....
Lorain.....	37,295	.....	2	.....	.....	.....	5	.....	.....	.....
Mansfield.....	27,824	8	1	.....	1	.....	5	1	.....	3
Marion.....	27,891	.....	5	.....	1	.....	.....	.....	1	.....
Middletown.....	23,594	1	.....	.....	.....	.....	1	.....	.....	.....
Newark.....	26,718	13	1	.....	1	.....	2	.....	.....	3

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920 subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Ohio—Continued.										
Niles.....	13,080	4	3	1			2			
Norwood.....	24,966	2					2			
Piqua.....	15,044	5								
Salem.....	10,305	4	1				2			
Springfield.....	60,840	15			1				1	1
Steubenville.....	28,508	18					1		2	
Tiffin.....	14,375	3			1		1			
Toledo.....	243,109	65	15	1	9		6		3	4
Youngstown.....	132,358	40	3		9		9		8	4
Zanesville.....	29,569	17	4	1	1		4	1		
Oklahoma:										
Oklaoma.....	91,258	30	4				3			1
Tulsa.....	72,075		1		7		2			
Oregon:										
Portland.....	258,288	111	6	1	1		7		6	5
Pennsylvania:										
Allentown.....	73,502		3				3			
Altoona.....	60,331		2				1			
Berwick.....	12,181		1		10		1			
Bethlehem.....	50,358		5		12		2			
Braddock.....	20,879						2			
Butler.....	23,778		2				1			
Canonsburg.....	10,632				4					
Carrick.....	10,504		4		4					
Dickson City.....	11,049		2							
Dubois.....	18,661		2		2		1			
Duquesne.....	19,011		1						1	
Erie.....	93,372		7		1		7		4	
Farrell.....	15,586						1			
Harrisburg.....	75,917		5				1			
Hazleton.....	32,277				31					
Homestead.....	20,452		1						9	
Johnstown.....	67,327		5		3		1		1	
Lancaster.....	53,150		4		1		6		1	
Lebanon.....	24,643						3			
McKeesport.....	45,975		3				1		3	
McKees Rocks.....	16,713		3							
Mahanoy City.....	15,599		1		3					
Meadville.....	14,563						1			
Monessen.....	18,179		2				3			
Mount Carmel.....	17,469						1			
Nanticoke.....	22,614		1		4					
New Castle.....	44,038		2		18		1			
New Kensington.....	11,987				3					
Norristown.....	32,319		3		1		1			
North Braddock.....	14,928						1			
Oil City.....	21,274		1						4	
Olyphant.....	10,236								1	
Philadelphia.....	1,823,158	651	71	12	15		110	5	84	58
Pittsburgh.....	588,193		22		24		44		36	
Plymouth.....	16,500		2		20					
Pottstown.....	17,431						3			
Pottsville.....	21,876		1		7					
Reading.....	107,784		2		4		4			
Scranton.....	137,783		8		4		3		3	
Shamokin.....	21,204				1		3			
Sharon.....	21,747				3		2			
Shenandoah.....	24,726		1		5		1			
Sunbury.....	15,721				14					
Swissvale.....	10,908		1		1		1			
Tamaqua.....	12,363				7		2			
Uniontown.....	15,692		1				2			
Warren.....	14,256		2						1	
Washington.....	21,490		2		15				1	
Wilkes-Barre.....	73,833		7		12		2			
Wilkesburg.....	24,403		2				3		1	
Williamsport.....	36,198		1				6			
York.....	47,512		4				2		2	
Rhode Island:										
Cranston.....	29,407	7								
Cumberland (town).....	10,077						1			
Newport.....	30,255	16					7	1		
Pawtucket.....	64,248	22	2	1						1
Providence.....	237,595	126	12	1	1		1			7

CITY REPORTS FOR WEEK ENDED MAR. 4, 1922 - Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
South Carolina:										
Charleston.....	67,987	19								
Columbia.....	37,524		3							
Greenville.....	23,127	4	2	1						
South Dakota:										
Sioux Falls.....	25,176		4		13		5			
Tennessee:										
Chatanooga.....	57,895		1				3			
Knoxville.....	77,818				15				2	2
Memphis.....	162,351	76	1				4		9	4
Texas:										
Beaumont.....	40,422	6								1
Dallas.....	158,976	43	1		58				5	1
El Paso.....	77,543	36	1		3		4			10
Fort Worth.....	106,482	21	1				2		2	2
Galveston.....	44,255	14	3							1
Houston.....	138,076	40	5				1			6
Waco.....	38,500	10	1							
Utah:										
Provo.....	10,303	4	1							1
Salt Lake City.....	118,110	35			1		5			1
Vermont:										
Burlington.....	22,779	6	2				7			1
Rutland.....	14,954	5					1			
Virginia:										
Alexandria.....	18,060	5			1				1	2
Danville.....	21,539	10			4					1
Lynchburg.....	29,956	7	3		1					1
Norfolk.....	115,777	2	2		1		4			3
Petersburg.....	31,002	7							2	
Portsmouth.....	54,387	13	1							
Richmond.....	171,667	67	4		34		1		21	8
Roanoke.....	50,842	12	1							
Washington:										
Bellingham.....	25,570						1			
Everett.....	27,644				1		1			
Seattle.....	315,652		3				10		5	
Tacoma.....	96,965		5		1		2		17	
Vancouver.....	12,637		2				1			
Walla Walla.....	15,503						1			
Yakima.....	18,539						3			
West Virginia:										
Bluefield.....	15,282	7	1							
Charleston.....	39,608	12	1							
Clarksburg.....	27,969	4	1	1						
Fairmont.....	17,851		2	1	1					
Huntington.....	50,177	21	1							
Martinsburg.....	12,515				33					
Morgantown.....	12,127		2		1		2			
Moundsville.....	10,669	5			1		2			
Parkersburg.....	20,050	9								2
Wheeling.....	54,322	33					2			
Wisconsin:										
Beloit.....	21,284	7	1				2		1	
Fond du Lac.....	23,427	5	1							
Green Bay.....	31,017	11	2	1						
Janesville.....	18,293	7								1
Kenosha.....	40,372	9	10		1		1			
La Crosse.....	30,363						1			
Madison.....	38,378		3		1		1			
Milwaukee.....	457,147		17				22		9	
Oshkosh.....	33,162		1				1			
Racine.....	58,598	9	8	1	1		8			
Sheboygan.....	30,955		3				2			
Superior.....	39,624	11					1		1	
Waukesha.....	12,558						2			
Wausau.....	18,661						1		2	
West Allis.....	13,765						3		1	
Wyoming:										
Casper.....	11,447	1								
Cheyenne.....	13,829	3			2		1		1	1

FOREIGN AND INSULAR.

AUSTRALIA.

Plague—Brisbane—Sydney.

During the week ended March 18, 1922, one case of plague was reported at Brisbane, Queensland, and two cases were reported at Sydney, New South Wales, Australia.

AUSTRIA.

Influenza—Vienna.

During the week ended January 28, 1922, 2,008 new cases of influenza with 25 deaths were reported in Vienna.

BERMUDA.

Epidemic Measles.¹

Measles was reported epidemic at Hamilton, Bermuda, from January 7 to February 27, 1922.

DENMARK.

Influenza—Copenhagen.

During the week ended February 11, 1922, 3,234 cases of influenza were reported at Copenhagen, Denmark. (Population, estimated, 700,000.)

FRANCE.

Influenza—St. Etienne.

During the two weeks ended January 31, 1922, 11 deaths from influenza were reported at St. Etienne, France. The total number of reported deaths during the period under report was 289. (Population, officially estimated, 168,524.)

GERMANY.

Influenza—Königsberg.

During the period January 1 to February 25, 1922, 178 cases of influenza with 87 deaths were reported at Königsberg, Germany. (Population, officially estimated, 273,898).

¹ Public Health Reports, Dec. 9, p. 3054 and Dec. 23, 1921, p. 3165.

JAMAICA.**Alastrim—Jan. 29–Feb. 25, 1922.¹**

During the four-week period January 29 to February 25, 1922, 82 cases of alastrim were reported in the Island of Jamaica.

Typhoid Fever—Kingston and Vicinity.

During the period under report 9 cases of typhoid fever were reported in Kingston, Jamaica, and 63 cases in the surrounding country.

MADAGASCAR.**Plague—Tananarive.**

Under date of March 2, 1922, plague was reported present at Tananarive, Island of Madagascar, with 38 cases notified among natives. The entire city was stated to be contaminated with plague. (Population, 68,044; native, 64,330; others, 3,714.)

MESOPOTAMIA.**Anthrax—Bagdad.**

A case of human anthrax was reported at Bagdad, Mesopotamia, during the month of December, 1921. The infection was stated to have been received from a shaving brush of Japanese origin. The bristles of the brush were stated to have been heavily infected with the germs of anthrax.

MEXICO.**Increase of Mosquitoes—Ciudad Juarez.**

Information received under date of February 9, 1922, shows that large areas of low lands on both the American and Mexican sides of the Rio Grande River at Ciudad Juarez, Mexico, and El Paso, Tex., have become flooded and provide prolific breeding places for mosquitoes. Malaria and yellow-fever bearing mosquitoes were stated to have been found in the region. The condition was stated to be due to the irrigation system lately installed.

Plague-Infected Rodents—Tampico.

The finding of two plague-infected rodents was reported at Tampico, Mexico, during the period March 5–11, 1922, making a total of 11 infected rodents found at that place from January 1 to March 11, 1922.

¹ Public Health Reports, Mar. 3, 1922, p. 515.

PERU.**Plague—Jan. 16-31, 1922.**

During the period January 16 to 31, 1922, 37 cases of plague, with 17 deaths, were reported in Peru. The cases were distributed in 10 localities. During the same period plague was reported present in the Province of Hualgayoc.

POLAND.**Typhus Fever—Jan. 1-7, 1922.**

Typhus fever has been reported in Poland as follows:

Week ended Jan. 7, 1922.

District.	Cases.	District.	Cases.
Bialystok.....	253	Pomerania.....	(¹)
Kielce.....	28	Posen.....	1
Krakow.....	53	Stanislawow.....	54
Lemberg.....	61	Tarnopol.....	28
Lodz.....	41	Tesin Silesia.....	(¹)
Lublin.....	147	Volhynia.....	107
Nowogrodek.....	(¹)	Warsaw.....	32
Polesia.....	450	Warsaw City.....	67

¹ No data.

RUSSIA.**Communicable Diseases—Latvia.**

During the period December 1 to 31, 1921, communicable diseases were reported in Latvia, Russia, as follows:

Disease.	Cases.	Disease.	Cases.
Diphtheria.....	75	Paratyphoid.....	4
Measles.....	359	Typhoid fever.....	98
Scarlet fever.....	254	Typhus fever.....	214
Smallpox.....	20	Typhus, recurrent.....	50

Population, census of December 31, 1920, 1,727,500.

SALVADOR.**Hookworm Infection—March, 1916–December, 1921.**

A summary of a report of the director general of the health department of the Republic of Salvador, received under date of February 3, 1922, shows that during the period March 6, 1916, to December 31, 1921, there were examined for hookworm infection 191,036 persons, of which number 105,172, or 55.1 per cent, were found infected. The percentage of cases treated was stated to be 85.5.

SWITZERLAND.**Influenza—Zurich.**

Influenza has been reported in Switzerland as follows: November 13 to December 31, 1921—cases, 100; deaths, 3. January 1 to February 11, 1922—cases, 3,570; deaths, 27. These figures are only for cases which received medical care.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.**Reports Received During Week Ended Mar. 24, 1922.¹****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Nov. 27-Dec. 10, 1921: Deaths, 3,827.
Calcutta.....	Jan. 22-Feb. 4.....	45	40	
Madras.....	Jan. 29-Feb. 4.....	1	1	
Philippine Islands:				
Manila.....	do.....	3	2	

PLAGUE.

Australia:				
New South Wales—				
Sydney.....	Mar. 12-18.....	2		
Queensland—				
Brisbane.....	do.....	1		
Brazil:				
Bahia.....	Jan. 8-21.....	4	3	
Para.....	Feb. 6-12.....		1	
Rio de Janeiro.....	Jan. 22-28.....	1	1	
British East Africa:				
Uganda.....	Nov. 1-30.....	79	79	
Ceylon:				
Colombo.....	Feb. 22-28.....	2	1	1 rodent plague.
Egypt.....				Jan. 1-Feb. 9, 1922: Cases, 14; deaths, 8.
City—				
Alexandria.....	Feb. 7.....	1		
Province—				
Keneh.....	Feb. 8.....	1	1	
India.....				Jan. 8-21, 1922: Cases, 3,581; deaths, 2,774.
Calcutta.....	Jan. 29-Feb. 4.....	1	1	
Karachi.....	do.....	9	6	
Madras.....	Jan. 22-Feb. 4.....	698	502	
(Presidency.)				
Rangoon.....	Jan. 15-28.....	94	85	
Java.....				Including Island of Madoera.
East Java—				Dec. 1-31, 1921: Deaths, 1,018.
Soerabaya.....	Jan. 1-7.....	2	2	
Madagascar:				
Tananarive.....	Mar. 2.....	38		Among natives. Entire city reported infected.
Mexico:				
Tampico.....				Mar. 5-11, 1922: 2 plague-infected rodents found.
Peru.....				Jan. 16-31, 1922: Cases, 37; deaths, 17.
Locality—				
Barranco.....	Jan. 16-31.....	1		
Chilca.....	do.....	3	2	
Chiclayo.....	do.....	5	2	
Guadalupe.....	do.....	1		
Huacho.....	do.....	1		
Hualgayoc.....	do.....			Province. Present.
Lambayeque.....	do.....	1		
Lima—				
City.....	do.....	1		
Country.....	do.....	9	2	
Payta.....	do.....	14	11	
Salaverry.....	do.....	1		
Senegal:				
Dakar.....				Jan. 1-31, 1922: One rodent plague.
Straits Settlements:				
Singapore.....	Jan. 15-21.....	1		

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended Mar. 24, 1922—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers.....				Jan. 1-31, 1922: One case.
Bolivia:				
La Paz.....	Nov. 1-Dec. 31.....	18	13	
Do.....	Jan. 1-31.....	15	9	
Brazil:				
Bahia.....	Jan. 8-14.....	1		
Rio de Janeiro.....	Jan. 22-28.....	8	3	
British East Africa:				
Uganda.....	Nov. 1-30.....	15	3	
Canada:				
New Brunswick—				
Charlotte County.....	Feb. 19-25.....	2		
Restigouche County.....	Feb. 19-25.....	2		
Ontario—				
Niagara Falls.....	Feb. 26-Mar. 4.....	5		
Toronto.....	Feb. 19-25.....	2		
Windsor.....	Feb. 26-Mar. 4.....	2		
Saskatchewan—				
Saskatoon.....	Feb. 11-18.....	1		
Chile:				
Concepcion.....	Jan. 18-30.....		10	
Lota.....				Oct. 28, 1921-Jan. 31, 1922: Cases, 879; deaths, 338.
China:				Jan. 22-23— Present.
Amoy.....	Jan. 15-21.....		1	
Changsha.....	Jan. 16-22.....	1		
Chungking.....	Jan. 8-21.....			Present.
Nanking.....	Jan. 15-Feb. 4.....			Do.
Chosen (Korea):				
Fusan.....	Jan. 1-31.....	21	4	
Seoul.....	do.....	1	1	
Colombia:				
Santa Marta.....	Feb. 19-25.....			Do.
Cuba:				
Cienfuegos.....	Feb. 19-Mar. 4.....	4	1	
Santiago.....	Feb. 1-28.....	3	1	
Egypt:				
Port Said.....	Dec. 16-23.....	1		
India:				Nov. 27-Dec. 10, 1921: Deaths, 163.
Bombay.....	Jan. 8-14.....	2		
Calcutta.....	Jan. 22-Feb. 4.....	39	36	
Karachi.....	do.....	11	3	
Madras.....	do.....	118	30	
Rangoon.....	Jan. 15-28.....	12		
Japan:				
Taiwan Island.....	Dec. 21-31.....	2		
Do.....	Jan. 1-10.....	2		
Java:				
East Java—				
Soerabaya.....	Jan. 1-7.....	4		
West Java—				
Batavia.....	Jan. 13-26.....	2	1	In Province: Cases, 17; deaths, 1.
Mexico:				
Chihuahua.....	Feb. 12-19.....		1	
Mexico City.....	Jan. 8-21.....	41		Including municipalities in Federal district.
Torreón.....	Feb. 1-28.....		4	
Palestine:				
Jerusalem.....	Jan. 31-Feb. 6.....	2		
Russia:				
Latvia.....	Dec. 1-31.....	20		
Senegal:				
Dakar.....	Jan. 1-31.....	2		
Spain:				
Seville.....	Feb. 5-11.....		8	
Straits Settlements:				
Singapore.....	Jan. 8-21.....	15	7	
Syria:				
Aleppo.....	Feb. 5-18.....			Present and in vicinity.
Beirut.....	Dec. 29-Jan. 4.....	14	2	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended Mar. 24, 1922—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers.....	Feb. 1-10.....	1		
Austria:				
Vienna.....	Jan. 22-28.....	5		
Bolivia:				
La Paz.....	Nov. 1-Dec. 31....	38	33	
Do.....	Jan. 1-31.....	15	12	
Chile:				
Concepcion.....	Jan. 24-30.....		1	
China:				
Harbin.....	Jan. 23-29.....	1		
Danzig, Free City—				
Zoppot.....	Feb. 23.....	1		In merchant from Warsaw, Poland.
Egypt:				
Alexandria.....	Feb. 5-11.....	2	1	
Cairo.....	Dec. 10-31.....	7	7	
Port Said.....	Feb. 5-11.....	1		
Germany:				
Breslau.....	Jan. 23-Feb. 5....	18	4	Including district.
Frankfort-on-Oder.....	Feb. 16.....	26		In persons returning from Russia.
Mesopotamia:				
Bagdad.....	Dec. 1-31.....	1		
Mexico:				
Mexico City.....	Jan. 8-21.....	81		Including municipalities in Federal district.
Poland:				Jan. 1-7, 1922: Cases, 1,322.
District—				
Bialystok.....	Jan. 1-7.....	253		
Kielce.....	do.....	28		
Krakow.....	do.....	53		
Lemberg.....	do.....	61		
Lodz.....	do.....	41		
Lublin.....	do.....	147		
Polesia.....	do.....	450		
Posen.....	do.....	1		
Stanislawow.....	do.....	54		
Tarnopol.....	do.....	28		
Volhynia.....	do.....	107		
Warsaw.....	do.....	32		
Warsaw City.....	do.....	67		
Russia:				
Latvia.....	Dec. 1-31.....	214		Recurrent typhus, 50.
Spain:				
Madrid.....	Jan. 1-31.....		2	

Reports Received from Dec. 31, 1921, to Mar. 17, 1922.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Oct. 2-Nov. 26, 1921: Deaths, 30, 372.
Bombay.....	Oct. 30-Nov. 5....	1		
Calcutta.....	Oct. 23-Dec. 31....	71	60	
Do.....	Jan. 1-21.....	34	29	
Karachi.....	Nov. 6-12.....		1	
Madras.....	Dec. 11-31.....	4	1	
Do.....	Jan. 1-21.....	9	6	
Rangoon.....	Oct. 1-Dec. 31....	30	24	
Do.....	Jan. 1-14.....	5	3	
Indo-China:				
Saigon.....	Nov. 6-12.....	1	1	
Java:				
West Java—				
Batavia.....	Nov. 1-7.....	2	2	At Lebak.
Philippine Islands:				
Manila.....	Nov. 13-Dec. 31....	49	18	
Do.....	Jan. 1-21.....	61	21	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 17, 1922—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands—Continued.				
Province—				
Bulacan.....	Dec. 25-31.....	1	.....
Pampanga.....	do.....	1	.....
Zambales.....	Dec. 11-31.....	31	18	
Poland.....				Aug. 14-Sept. 10, 1921. Cases, 4; deaths, 1.
Russia:				
Kharkoff.....	Jan. 28.....		.....	Present.
Kieff.....	Dec. 15-Jan. 11....	259	.....
Latvia—				
Riga.....				At quarantine station in October 1921: One case.
Odessa.....	Jan. 28.....			Present.
Siam:				
Bangkok.....	Oct. 23-Dec. 24....	8	4	

PLAGUE.

Asia Minor:				
Smyrna.....	Nov. 27-Dec. 3....	1	1	
Australia:				
New South Wales—				
Sydney.....	do.....	2	1	Dec. 7-13: 4 plague rats. Jan. 15-21, 1922: One plague rat.
Do.....	Jan. 29-Feb. 25....	4	.....
Queensland—				
Brisbane.....	Oct. 30-Dec. 31....	27	20	Total, Aug. 22-Dec. 31, 1921: Cases, 41, deaths, 27. Total infected rats, 54. Total cases, Jan. 1-28, 1922: 9. Total infected rats, 9.
Do.....	Jan. 1-28.....	9	.....	Plague rats: 9.
Bundaberg.....	Mar. 5-11.....	1	.....
Cairns.....	Oct. 30-Dec. 31....	6	3	
Do.....	Jan. 1-7.....	1	1	
Cooktown.....	Oct. 30-Nov. 5....	1	.....	Pestis minor.
Ingham.....				Nov. 6-Dec. 24, 1921: Plague rats, 14. Jan. 1-14, 1922: 2 plague rats.
Instail.....				Nov. 27-Dec. 3, 1921: 1 plague rat.
Ipswich.....	Dec. 11-17.....	1	1	
Port Douglas.....	Nov. 13-19.....	1	1	
Townsville.....	Nov. 20-Dec. 3....	2	2	Total cases, 27; deaths, 18.
Do.....	Jan. 1-14.....		2	To Jan. 14, 1922: Cases, 32; deaths, 21.
Azores:				
Islands—				
Fayal.....	Jan. 16-22.....	2	2	
St. Michael.....				Nov. 27-Dec. 31, 1921: Cases, 23; deaths, 9. Jan. 1-21, 1922: Cases, 13; deaths, 8.
Arrifes.....	Dec. 25-31.....	1	1	3 miles from port.
Do.....	Jan. 1-7.....	1	.....
Fenaes d'Ajuda.....	Nov. 27-Dec. 3....		.....	Present. 6 miles from port.
Do.....	Jan. 15-21.....	3	2	
Ribeira Grande.....	Nov. 13-Dec. 10....	19	8	9 miles from port.
Do.....	Jan. 8-14.....	9	6	
Livramento.....	Dec. 4-10.....	2	.....	Vicinity of Ponta Delgada.
Ponta Delgada.....	do.....	1	.....
Brazil:				
Bahia.....	Oct. 30-Dec. 31....	13	12	
Do.....	Jan. 1-7.....	2	2	
British East Africa:				
Uganda.....	Aug. 1-Oct. 31....	90	61	Reports of inspectors, deaths, 343; reports of chiefs, deaths, 651.
Ceylon:				
Colombo.....	Oct. 30-Dec. 31....	13	10	Oct. 30-Dec. 24, 1921: Rodent plague, 6.
Do.....	Jan. 1-21.....	10	11	Infected rats, 8.
China:				
Hongkong.....	Nov. 20-Dec. 17....	6	.....
Do.....	Jan. 1-28.....	12	7	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 17, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 31...	18	6	Rats examined, 2,958; found infected, 90. Total, July-Dec. 15, 1921: Cases, 28. Jan. 1-31, 1922: Rats examined, 6,200; found infected, 153.
Do.....	Jan. 1-31.....	20	9	
Egypt:				Jan. 1-Dec. 31, 1921: Cases, 356; deaths, 153. Jan. 1-Feb. 2, 1922: Cases, 12; deaths, 6.
City—				
Alexandria.....	Dec. 5-30.....	7	2	
Do.....	Jan. 17-24.....	3	2	
Port Said.....	Dec. 20.....	1		
Suez.....	Nov. 23-Dec. 31.....	16	9	
Do.....	Jan. 2-29.....	4	2	
Province—				
Girgeh.....	Jan. 12.....	1		Septicemic.
Kenah.....	Dec. 1.....	1	1	Do.
Do.....	Jan. 21-26.....	2	1	1 case septicemic.
Greece:				
Preveza.....	Feb. 8.....			Outbreak. Port on the Ionian Sea.
India:				Oct. 23-Dec. 31, 1921: Cases, 8,690; deaths, 6,458 (Reports, weeks ended Dec. 3 and 17, 1921, missing). Jan. 1-14, 1922: Cases, 3,553; deaths, 2,801.
Bombay.....	Oct. 23-Dec. 24.....	7	6	
Do.....	Jan. 1-7.....	1	1	
Karachi.....	Nov. 6-Dec. 31.....	5	5	
Do.....	Jan. 1-28.....	8	6	
Madras.....	Dec. 11-17.....	1		
Madras Presidency.....	Nov. 13-Dec. 31.....	2,047	1,438	
Do.....	Jan. 1-21.....	771	542	
Rangoon.....	Oct. 1-Dec. 31.....	139	129	
Do.....	Jan. 1-14.....	38	36	
Indo-China:				
Saigon.....				Nov. 6-Dec. 24, 1921: Rodent plague, 10. Jan. 8-14, 1922: Rodent plague, 1.
Italy:				
Catania.....	Nov. 27.....	1	1	Total, Oct. 16-Nov. 27, 1921: Cases, 8 (of which 1 doubtful); deaths, 5.
Naples (Province)—				
Torre Annunziata.....	Oct. 22-Dec. 27.....	2		17 miles from city of Naples.
Venice.....	Oct. 27.....	1		
Java:				Islands of Java and Madoera.
East Java—				Nov. 1-30, 1921; deaths, 763.
Soerabaya.....	Oct. 30-Dec. 10.....	11	12	
Madagascar:				
Tananarive.....	Feb. 4.....			Present.
Mauritius (Island):				
Port Louis.....	Oct. 29-Nov. 30.....	159	101	Plague-infected rats, 176; plague-infected cats, 36. (Corrected report.)
Mesopotamia:				
Bagdad.....	Oct. 1-31.....	1	1	
Mexico:				
Tampico.....				Dec. 18-31, 1921: Infected rodents found, 5; total, Jan. 1-Dec. 31, 1921, infected rodents, 322; Jan. 1-Feb. 18, 1922, 9 plague-infected rodents.
Vera Cruz.....				One infected rodent caught Dec. 5, 1921.
Peru:				Nov. 17-Dec. 31, 1921: Cases, 94; deaths, 35. Occurring in Callao, Huacho, Huaras, Lima, Magdalena Vieja, Paita, Salaverry, and Sechura. Jan. 1-15, 1922: Cases, 28; deaths, 12. (Corrected report.)

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 17, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Peru—Continued.				
Localities—				
Bambamarca	Jan. 1-15	.....	.....	Present. Rural.
Callao	do	2	.....	Rural. Year, 1921: Deaths, 30.
Cutervo	do	1	.....	Rural.
Guadalupe	do	6	2	
Huacho	do	1	.....
Huaral	do	2	.....
Jayanca	do	.....	.....	Present.
Lima	do	2	.....	In district, 2 cases; 1 death.
Payta	do	11	3	
San Pedro	do	1	.....
Sullana	do	.....	1	
Portugal:				
Lisbon	Dec. 15	1	1	
Portuguese West Africa:				
Angola—				
Loanda	Oct. 9-Nov. 5	.....	2	
Rhodes (Island) (Aegean Sea)	Oct. 13	3	1	
Siam:				
Bangkok	Oct. 23-Dec. 31	7	6	
Straits Settlements:				
Singapore	Nov. 6-Dec. 31	3	3	
Syria:				
Beirut	Oct. 9-Nov. 20	10	4	
Turkey:				
Constantinople	Jan. 1-7	1	.....
Union of South Africa:				
Orange Free State—				
Bothaville	Nov. 19	.....	.....	Plague-infected mouse found.
Hoopstad	Dec. 4-10	1	.....	In native herd boy.
On vessel:				
S. S. Polycarp	Feb. 3	1	.....	At Para, Brazil, from Ceara, via Manaus, Maranham, and Para, for New York.
S. S. Tango Maru	Dec. 31	1	.....	At Thursday Island Quarantine, Australia, from Kobe, via Nagasaki, Hongkong, Manila, and Zamboanga.

SMALLPOX.

Arabia:				
Aden	Dec. 25-31	.....	1	
Do	Jan. 8-14	.....	1	
Asia Minor:				
Smyrna	Jan. 15-21	1	.....	In district.
Bolivia:				
La Paz	Aug. 1-Oct. 31	42	28	
Brazil:				
Bahia	Nov. 6-Dec. 17	4	.....
Rio de Janeiro	Nov. 13-Dec. 31	13	2	
Do	Jan. 1-21	8	1	
Sao Paulo	Oct. 31-Dec. 25	11	.....
Do	Dec. 26-Jan. 1	1	.....
British East Africa:				
Uganda	Aug. 1-Sept. 30	7	.....	Reports of inspectors; cases, 4.
Canada:				
British Columbia—				
Vancouver	Dec. 25-31	3	.....
Do	Jan. 29-Feb. 4	1	.....
Manitoba	.....	.....	.....	Year 1921: Cases, 71.
Winnipeg	Nov. 20-Dec. 3	2	.....
New Brunswick—				
Charlotte County	.....	.....	.....	Dec. 17, 1921: 31 cases; previously reported, occurring at Andersonville and Blacks Harbor.
St. Stephen	Dec. 11-17	2	.....	Dec. 18-24, 1921: Cases, 3. Dec. 25-31, 1921: Cases, 2.
Restigouche County	.....	.....	.....	Dec. 11-31, 1921: Cases, 3. Feb. 12-18, 1922: Cases, 2.
Charlo	Feb. 19-25	2	.....	20 miles from Campbellton.
York County	Dec. 11-17	1	.....
Do	Jan. 29-Feb. 4	1	.....

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 17, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Ontario.....				Dec. 1-31, 1921: Cases, 128.
Fort William and Port Arthur.....	Jan. 1-21.....	3		
Hamilton.....	Jan. 22-28.....	3		
Kingston.....	Jan. 17-Feb. 11.....	5		
Niagara Falls.....	Dec. 11-24.....	2		Jan. 16-20, 1922: Two cases reported.
Do.....	Jan. 15-Feb. 18.....	20		
North Bay.....	Feb. 12-18.....	1		
Ottawa.....	Dec. 11-24.....	17		
Do.....	Jan. 1-Feb. 25.....	26		
Sault Ste. Marie.....	Jan. 15-21.....	1		
Toronto.....	Dec. 11-24.....	4		
Do.....	Jan. 1-Feb. 18.....	43		
Windsor.....	Jan. 8-14.....	1		
Quebec—				
Montreal.....	Dec. 11-24.....	1		
Saskatchewan—				
Regina.....	Jan. 1-21.....	3		
Saskatoon.....	Dec. 1-18.....	6		
Do.....	Feb. 5-9.....	2		
Canal Zone:				
Ancon.....				Admitted to hospital by transfer from Panama, Nov. 30, 1921, 1 case. Arrived on sailing vessel from a village on south coast.
Ceylon:				
Colombo.....	Nov. 27-Dec. 3.....	1		Port case.
Chile:				
Concepcion.....	Nov. 23-Dec. 26.....		25	Nov. 15-21, 1921: Diffused in southern provinces; not epidemic.
Do.....	Dec. 27-Jan. 16.....		11	Nov. 15-21, 1921: Present. In vicinity, at Hualqui, cases, 32; deaths, 5. Dec. 4-17, 1921: Present.
Coronel Curanilahue.....	Nov. 15-Dec. 17.....	4		Present.
Talcahuano.....	Nov. 15-Dec. 24.....	6		
Do.....	Jan. 8-28.....			Do.
Temuco.....	Nov. 15-21.....	9		
Valparaiso.....	Oct. 28-Dec. 31.....		94	
Do.....	Jan. 1-21.....		39	
China:				
Amoy.....	Nov. 16-Dec. 31.....		7	Nov. 23-29, 1921: Present.
Do.....	Jan. 1-14.....		3	
Antung.....	Nov. 28-Dec. 18.....	4	1	
Canton.....	Dec. 1-31.....			Present.
Chungking.....	Nov. 6-Dec. 31.....			Do.
Do.....	Jan. 1-7.....			Do.
Foochow.....	Nov. 6-Dec. 31.....			Do.
Do.....	Jan. 1-14.....			Do.
Hankow.....	Nov. 13-Dec. 31.....			Do.
Do.....	Jan. 1-21.....	2		
Harbin.....	Nov. 14-Dec. 11.....	5		
Do.....	Dec. 26-Jan. 1.....	2		
Hongkong.....	Dec. 3-31.....	5		
Do.....	Jan. 1-28.....	6	3	
Mukden.....	Nov. 20-Dec. 31.....			Do.
Do.....	Jan. 15-21.....			Do.
Nanking.....	Nov. 20-Dec. 17.....			Do.
Shanghai.....	Oct. 31-Dec. 31.....	67	194	Cases, foreign; deaths, Chinese and foreign. Jan. 14, 1922: Conditions serious. Populations: Native, 790,000; foreign, 24,000.
Do.....	Jan. 2-Feb. 5.....	28	151	Cases, foreign; deaths, native. Jan. 14, 1922: Seriously prevalent.
Tientsin.....	Dec. 11-17.....	2		In Mission Hospital.
Tsingtau.....	Jan. 1-15.....	5	4	
Chosen (Korea):				
Fusan.....	Dec. 1-31.....	3	1	
Colombia:				
Cartagena.....	Nov. 22-28.....		1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 17, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Cuba.....	.....	.....	.....	Dec. 4-31, 1921: Cases, 361. Jan. 1-31, 1922: Cases, 257. At Preston.
Antilla.....	Dec. 12-31.....	3	.....
Do.....	Jan. 8-Feb. 4.....	13	1	
Cienfuegos.....	Jan. 22-23.....	1	.....	From outside city limits.
Santiago.....	Jan. 1-31.....	5	.....
Czechoslovakia:				
Prague.....	Dec. 18-24.....	.....	42	
Dominican Republic.....	.....	.....	.....	Oct. 1-31, 1921: Cases, 653; deaths, 54. Jan. 2-Feb. 4, 1922: Cases, 6,922; deaths, 185.
Puerta Plata.....	Jan. 13.....	100	5	In district, widely diffused with 1,000 estimated cases with 100 deaths.
San Pedro de Macoris.....	Nov. 20-Dec. 31.....	31	1	Estimate of about 500 cases of smallpox in the district of Macoris; of this amount 50 within the city limits.
Do.....	Jan. 14-Feb. 4.....	122	.....
Santo Domingo.....	Nov. 15-Dec. 5.....	.....	.....	In district 401 cases estimated. Dec. 17-24, 1921: Present in vicinity. Jan. 9-16, 1922: In surrounding country, 1,745 cases (estimated).
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 31.....	7	.....	And vicinity.
Do.....	Jan. 1-15.....	1	.....
Egypt:				
Alexandria.....	Nov. 26-Dec. 2.....	1	1	
Cairo.....	Nov. 26-Dec. 2.....	2	.....
Port Said.....	Dec. 20-26.....	1	.....
Do.....	Jan. 22-28.....	1	.....
Finland.....	.....	.....	.....	Nov. 16-30, 1921: 1 case.
Fiume.....	.....	.....	.....	Dec. 27, 1921-Jan. 2, 1922: Cases, 2.
Great Britain:				
Manchester.....	Jan. 1-7.....	4	.....
Nottingham.....	Dec. 4-31.....	18	.....
Do.....	Jan. 8-28.....	3	.....
Swansea.....	Jan. 17-23.....	2	.....	Imported on vessel from Persian Gulf.
Haiti.....	.....	.....	.....	Jan. 22-28, 1922: A few cases.
Cape Haitien.....	Dec. 11-24.....	8	.....
Do.....	Jan. 1-Feb. 18.....	21	1	
Port au Prince.....	Dec. 11-31.....	.....	.....	Present.
Do.....	Jan. 15-21.....	2	.....
India.....	.....	.....	.....	Oct. 2-8, 1921: Deaths, 28. Oct. 23-Nov. 19, 1921: Deaths, 266.
Bombay.....	Oct. 23-Dec. 31.....	3	2	
Do.....	Jan. 1-7.....	1	.....
Calcutta.....	Nov. 13-Dec. 31.....	37	28	
Do.....	Jan. 1-21.....	21	19	
Karachi.....	Nov. 11-Dec. 31.....	28	9	
Do.....	Jan. 1-21.....	17	9	
Madras.....	Nov. 13-Dec. 31.....	183	59	
Do.....	Jan. 1-21.....	167	66	
Rangoon.....	Oct. 1-Dec. 31.....	6	.....
Indo-China:				
Saigon.....	Dec. 18-24.....	1	1	City and district.
Do.....	Jan. 8-14.....	1	1	Do.
Italy:				
Genoa.....	Nov. 10-20.....	1	.....
Messina—				
Messina.....	Nov. 28-Dec. 4.....	1	.....
Pettineo.....	Nov. 14-Dec. 4.....	2	.....
Venice.....	Jan. 30-Feb. 5.....	2	.....
Japan:				
Kobe.....	Jan. 23-29.....	3	1	
Taiwan Island.....	Dec. 1-20.....	2	1	
Yokohama.....	Jan. 9-21.....	3	.....
Java:				
West Java—				
Bandoeng.....	Nov. 18-Dec. 8.....	2	.....
Batavia.....	Nov. 18-Dec. 22.....	11	9	City and Province.
Do.....	Dec. 30-Jan. 5.....	1	2	In Province: Cases, 6; deaths, 3.
Buitenzorg.....	Nov. 25-Dec. 8.....	7	.....	13 cases, with 3 deaths, not locally stated.
Krawang.....	Nov. 18-24.....	1	.....

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 17, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Java—Continued:				
West Java—Continued:				
Lebak.....	Nov. 18-Dec. 8....	7	4	
Pandeglang.....	Nov. 25-Dec. 1.....	1	1	
Tangerang.....	Nov. 18-Dec. 8....	5	1	
Liberia:				
Grand Bassa County.....	Nov. 30.....			Present at Lower Buchanan.
Mesopotamia:				
Bagdad.....	Oct. 1-Nov. 30....	117	50	Epidemic with high mortality in November, 1921.
Mexico:				
Chihuahua.....	Dec. 5-11.....		1	
Do.....	Jan. 23-29.....		1	
Guadalajara.....	Nov. 1-Dec. 31....	6		
Do.....	Jan. 1-31.....	11	2	
Mexico City.....	Nov. 20-Dec. 31....	64		Including municipalities in Federal District.
Do.....	Jan. 1-7.....	16		Do.
Saltillo.....	Jan. 29-Feb. 4.....		1	From San Salvador, Zacatecas.
San Luis Potosi.....	Dec. 18-24.....		2	
Do.....	Jan. 8-Feb. 25.....		9	
Torreon.....	Dec. 1-31.....	134		
Do.....	Jan. 1-31.....		78	
Newfoundland:				
St. Johns.....	Feb. 4-10.....	1		
Palestine:				
Jerusalem.....	Jan. 10-30.....	22		
Panama:				
Bocas del Toro Province—				
Sursuba.....	Jan. 18-Feb. 8....	11		Village 24 miles from Almirante.
Chiriqui Province.....	Dec. 22.....			Present.
Do.....	Jan. 26.....			Present with center of prevalence at Bosquete Bajo.
Panama.....	Dec. 14.....	1		On Dec. 21, 1921: 1 additional case from country district of Sabanas, admitted to hospital. Total admissions, Jan. 1-Dec. 21, 1921, 207.
Peru:				
Lima.....	Nov. 1-Dec. 31....		3	
Poland.....				Aug. 14-Dec. 3, 1921: Cases, 494; deaths, 112. Exclusive of Brest-Litovsk, Minsk, and Wilno districts.
Portugal:				
Lisbon.....	Nov. 13-Dec. 31....	48	12	
Do.....	Jan. 1-28.....	46	1	
Portuguese East Africa:				
Lourenco Marques.....	Oct. 1-Nov. 5.....	2	4	
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Dec. 31....		7	
Rumania:				
Bucharest.....	Nov. 1-30.....	23		
Russia:				
Estonia.....	Oct. 1-Dec. 31....	38		
Latvia.....	Oct. 1-Nov. 30....	55		
Serbia:				
Belgrade.....	Oct. 2-Nov. 26....	16	4	
Siam:				
Bangkok.....	Oct. 23-Nov. 5....	1		
Spain:				
Barcelona.....	Jan. 8-14.....		1	
Huelva.....	Oct. 1-Nov. 30....		2	
Malaga.....	Nov. 1-Dec. 31....		60	
Seville.....	Nov. 16-Dec. 31....		7	
Do.....	Jan. 8-28.....		5	
Valencia.....	Jan. 22-28.....	1		
Straits Settlements:				
Singapore.....	Nov. 6-Dec. 24....	49	13	
Do.....	Jan. 1-7.....	8	4	
Switzerland:				
Glarus, Canton.....	Dec. 10.....			Epidemic.
Zurich.....	do.....	2		In vicinity.
Syria:				
Adana.....	Dec. 18-24.....			Present.
Do.....	Jan. 1-14.....			Do.
Aleppo.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 17, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Syria—Continued.				
Alexandretta.....	Jan. 1-Feb. 4.....			Present.
Beirut.....	Oct. 9-Nov. 13.....	5	2	
Do.....	Jan. 8-28.....	8		
Cilicia.....	Jan. 8-Feb. 4.....			Do.
Diarbekir.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.
Mersina.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-7.....			Do.
Urfu.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.
Tunis:				
Tunis.....	Nov. 26-Dec. 23.....	17	15	
Do.....	Jan. 1-Feb. 4.....	4	5	
Turkey:				
Constantinople.....	Nov. 27-Dec. 24.....	20	4	
Do.....	Jan. 15-28.....	16	5	
Union of South Africa.....				Nov. 1-30, 1921: Cases, 216; deaths, 5 (colored). White, 8 cases.
Cape Province.....	Nov. 5-Dec. 31.....			Outbreaks. Nov. 1-30, 1921; Cases, 17; deaths, 1 (colored).
Do.....	Jan. 8-14.....			Outbreaks.
Natal.....	do.....			Outbreaks. Nov. 1-30, 1921; Cases, 170; deaths, 4 (colored).
Orange Free State.....	Oct. 23-Dec. 24.....			Outbreaks. Nov. 1-30, 1921; Cases, 7 (colored).
Southern Rhodesia.....	Dec. 20-Jan. 18.....	16		Outbreaks.
Transvaal.....	Oct. 23-Dec. 31.....			Outbreaks. Nov. 1-30, 1921; Cases, 22 (colored). Among white population, 8 cases, State not designated.
Do.....	Jan. 1-14.....			
Johannesburg District.....	Dec. 1-31.....	1		
Do.....	Jan. 1-7.....			Outbreaks.
Yugoslavia.....				July 3-30, 1921: Cases, 37.
Bosnia Herzegovina.....	July 3-9.....	2		
Croatia Slavonia.....	do.....	1		
Dalmatia.....	do.....	1		
Serbia.....	do.....	3		
Slavonia.....	do.....	1		
Voivodina.....	do.....	3		
On vessel:				
S. S. West O'Rowa.....	Jan. 5-8.....	3	1	At Kobe, Japan, from Shanghai, China.
S. S. —.....	Jan. 17-23.....	2		At Swansea Wales, from Persian Gulf.

TYPHUS FEVER.

Algeria:				
Algiers.....	Nov. 1-Dec. 31.....	3		
Do.....	Jan. 11-20.....	1		
Oran.....	Dec. 21-31.....	1		
Do.....	Jan. 1-10.....		1	
Asia Minor:				
Brousa.....	Jan. 15-21.....	1		
Austria:				
Vienna.....	Dec. 4-31.....	10		
Do.....	Jan. 1-21.....	4	1	
Bolivia:				
La Paz.....	Aug. 1-Oct. 31.....	83	65	
Bulgaria:				
Sofia.....	Dec. 18-24.....	1		
Chile:				
Concepcion.....	Nov. 22-Dec. 26.....		3	
Do.....	Jan. 3-16.....		2	
Valparaiso.....	Oct. 23-Nov. 26.....		6	
Do.....	Jan. 1-7.....		1	
China:				
Antung.....	Dec. 26-Jan. 1.....	1		
Harbin.....	Nov. 7-Dec. 25.....	12		Jan. 23, 1922: Reported extending from Soviet Russia, along railway line to maritime provinces.
Do.....	Dec. 26-Jan. 22.....	16		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921 to, Mar. 17, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria.....	Nov. 19-Dec. 31....	3	1	
Do.....	Jan. 15-23.....	9	1	
Cairo.....	Oct. 1-Dec. 9.....	11	7	
Port Said.....	Jan. 22-23.....	1		
Germany:				
Breslau.....	Dec. 25-31.....	2	1	
Do.....	Jan. 1-15.....	37	4	
Hamburg.....	Dec. 11-17.....	4		
Great Britain:				
Glasgow.....	Dec. 25-31.....	1		
Italy:				
Palermo.....	Jan. 15-23.....	3	1	
Mesopotamia:				
Bagdad.....	Oct. 1-Nov. 30....	2	9	
Mexico:				
Mexico City.....	Nov. 20-Dec. 31....	242		Including municipalities in Federal District.
Do.....	Jan. 1-7.....	42		Do.
San Luis Potosi.....	Dec. 18-24.....		1	Dec. 25-31, 1921: Present.
Do.....	Jan. 8-Feb. 25.....			Present. One death.
Palestine:				
Jerusalem.....	Dec. 27-Jan. 16....	5		
Poland—				
District—				
Bialystok.....	Nov. 20-Dec. 10....	116	3	Aug. 14-Nov. 5, 1921: Cases, 2,399; deaths, 173. Nov. 6-Dec. 3, 1921: Cases, 1,512; deaths, 105. Exclusive of Brest-Litovsk, Minsk, and Wilno districts. Nov. 20-Dec. 10, 1921: Cases, 1,162 deaths, 89.
Galicia—				
Lemberg.....	Jan. 3.....	229		
Kielce.....	Nov. 20-Dec. 10....	31	8	
Krakow.....	do.....	45	6	
Lodz.....	do.....	67		
Lublin.....	do.....	59		
Lwow.....	do.....	121	16	
Nowogrod.....	do.....	249	15	
Polesia.....	do.....	83	5	
Stanislawow.....	do.....	88	8	
Tarnopol.....	do.....	86	17	
Volhynia.....	do.....	89	4	
Warsaw.....	do.....	81	2	
Warsaw City.....	do.....	47	5	
Do.....	Jan. 11.....	50		
Portugal:				
Oporto.....	Jan. 8-Feb. 11....	6	2	
Rumania:				
Bucharest.....	Nov. 1-30.....	3		
Chisinau.....	do.....	7		
Russia:				
Esthonia.....	Oct. 1-Dec. 31.....	53		Nov. 28-Dec. 10, 1921: In Soviet Russia, cases, 7,681.
Latvia.....	do.....	127		
Libau.....	Jan. 15-Feb. 4.....	4		
Perm.....	Nov. 23-Dec. 10....	1,408		Oct. 1-31, 1921: Cases, 839; Nov. 1-30, 1921: Cases, 2,389.
Saratov District—				
Markstadt—				
				Sept. 1-Dec. 31, 1921: Cases, 1,987; mortality, about 10 per cent; hospital cases.
Serbia:				
Belgrade.....	Oct. 2-Nov. 26....	3	2	
Siberia				Jan. 23, 1922: Present in western districts.
Chita.....	Dec. 26.....			Epidemic.
Turkey:				
Constantinople.....	Nov. 20-Dec. 31....	19		
Do.....	Jan. 1-23.....	30		
Union of South Africa:				
				Nov. 1-30, 1921: Cases, 573; deaths, 79 (colored). White, 7 cases; 1 death.
Cape Province				Oct. 23-Dec. 24, 1921: Outbreaks. Nov. 1-30, 1921: Cases, 473; deaths, 70 (colored). Among white population, 7 cases, 1 death.
Do.....				Jan. 1-14, 1922: Outbreaks.
East London.....	Oct. 30-Dec. 24....	3		One death in European at Jenseville, Dec. 6, 1921.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 17, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Union of South Africa—Contd.				
Cape Province—Contd.				
Natal.....	Nov. 5-Dec. 17.....			Outbreaks. Stated to be prevalent only in Newcastle District. Nov. 1-30, 1921: Cases, 55; deaths, 7 (colored).
Orange Free State.....	Nov. 13-Dec. 31.....			Outbreaks. Nov. 1-30, 1921: Cases, 41; deaths, 1 (colored).
Do.....	Jan. 1-14.....			Outbreaks.
Transvaal.....	Jan. 8-14.....			Outbreaks. Nov. 1-30, 1921: Cases, 4; deaths, 1 (colored).
Johannesburg District.	Jan. 12-18.....	26	4	
Venezuela:				
Maracaibo.....	Dec. 20-26.....		1	
Yugoslavia.....				July 3-30, 1921: Cases, 13.
Bosnia Herzegovina.....	July 3-9.....	1		
Croatia.....				
Zagreb.....	Jan. 1-14.....	2		
Montenegro.....	July 3-9.....	2		

YELLOW FEVER.

Mexico.....				Year 1921: Cases, 115; deaths, 53.
Colima (State).....				Year 1921: Cases, 7; deaths, 4.
Colima.....	Oct. 27.....	4	3	
Manzanillo.....	Aug. 21.....	3	1	
Jalisco (State).....				Year 1921: Cases, 13; deaths, 7.
Guadalajara.....	Nov. 1-30.....	1	1	Imported.
Puerta Vallarta (Las Penas).....	Oct. 5-Dec. 17.....	13	5	
Tonila.....	Aug. 31.....	1	1	
Quintana Roo (Territory)—				
Payo Obispo.....	Aug. 8.....	1	1	
Sinaloa (State).....				Year 1921: Cases, 18; deaths, 9.
Culiacan.....	Sept. 17.....	4	1	
Guamuchil.....	Oct. 10.....	1		
Mazatlan.....	Aug. 21.....	1	1	Imported.
Palmar de los Leales.....	Sept. 30.....	12	7	
Tamaulipas (State).....				Year 1921: Cases, 1; deaths, 1.
Tampico.....	Jan. 11.....	1	1	
Vera Cruz (State).....				Year 1921: Cases, 75; deaths, 31.
Alamo.....	June 21.....	4	1	Oil camp.
Alvarado.....	July 3.....	1	1	
Barra de Penn.....	July 18.....	1	1	
Cordoba.....	Sept. 22.....	5	3	
Cosamaloapam.....	July 18.....	14	6	
Nogales.....	Oct. 28.....	1	1	
Orizaba.....	do.....	1		
Papantla.....	Jan. 14.....	6	3	
Providencia.....	Oct. 28.....	3		
Purga.....	Feb. 7.....	1	1	
Rancho de Santa Rosa.....	Oct. 8.....	2		
Rancho "El Jaguey".....	Sept. 14.....	2	2	
San Pablo (Papantla).....	Sept. 12.....	1		
San Ildefonso.....	Oct. 17.....	2		
Tierra Blanca.....	Sept. 24-Nov. 12.....	4	3	
Tlacoatlpan.....	Sept. 14.....	1	1	
Tuxpam.....	Jan. 3.....	8	2	
Vera Cruz.....	Jan. 15.....	18	7	Two of these cases imported. Dec. 20-26, 1921: Cases, 1; deaths, 1. Imported.